A REVISION OF THE GENUS *TRIDREPANA* SWINHOE (LEPIDOPTERA : DREPANIDAE)

BY

ALLAN WATSON

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SYNOPSIS

In the following paper all previously known species of the genus have been redescribed, eleven new species and eleven new subspecies have been described and various taxonomic problems unravelled.

Drawings of the genitalia of each species have been given, where possible of both sexes. Photographs of the upperside of the whole insect have been prepared for those species which have not been satisfactorily photographed or otherwise illustrated before and for eight of the new species.

INTRODUCTION

History

The genus was created by Swinhoe (1895) for part of Hampson's (1893) Section III of *Drepana* Schrank. Swinhoe included *Drepana albonotata* Moore, *D. sadana* Moore, *D. xanthoptera* Hampson and *D. vira* Moore but did not designate a type species.

Warren (1896) added *Tridrepana septempunctata*, *T. argentistriga* and *T. trisulcata*; (1897) *T. subobliqua* and *T. diluta*; (1903) *T. fulvata* ab. *olivacea* and *fulvata* ab. *fasciata*. Swinhoe (1905) added *adelpha*. It may be noted here that Nagano (1917) created a monotypic genus *Konjikia* with type species *D. crocea* Leech to which Matsumura (1921) added *arikana*.

In the revision of the Indo-Australian species of the genus, Warren (1922) cited the generic name as *Iridrepana* (*sic*): this can be regarded as an erroneous subsequent spelling. Warren designated *D. albonotata* Moore as the type species and listed the following species: *T. falcipennis* Warren, *D. fulvata* Snellen, *T. semirufa* Warren (including *T. semirufa elegans* Warren), *T. examplata* Warren, *T. cervina* Warren, *T. tristigma* Warren, *D. sera* Warren, *T. septempunctata* Warren (including *T. septempunctata pervasata* Warren), *D. rubromarginata* Leech, *T. obliquitaenia* Warren, *D. sadana* Moore, *T. adelpha* Swinhoe, *D. fulva* Hampson, *D. flava* Moore, *D. postica* Moore, *Agnidra ferrea* Hampson, *T. melliflua* Warren, *T. argentistriga* Warren, *D. quadripunctata* Walker, *T. diluta* Warren, *T. subobliqua* Warren, *T. trisulcata* Warren, *T. trilinearia* Warren, *T. glaciata* Warren and *T. mediata* Warren. He also correctly sank *xanthoptera* Hampson to *postica* Moore and raised *olivacea* Warren and *fasciata* Warren to specific rank: *vira* Moore he removed to *Albara* Walker.

Gaede (1931) listed all those species mentioned by Warren (1922) but relegated to infrasubspecific level *T. fasciata* Warren and *T. olivacea* Warren which became " abberations " of *fulvata* Snellen, and *T. septempunctata pervasata* Warren which became a " variety " of *septempunctata* Warren. He also sank *Callidrepana ochrea* Butler to *D. albonotata* Moore (correctly) and *C. lunulata* Butler to *D. fulvata* (incorrectly) ; no mention was made of *T. semirufa elegans* Warren.

Bryk (1943) added *T. glaciata aurorina* and *T. adelpha matronalis*.

Treatment

As the relevant literature has not been adequately summarized previously, the bibliographies have been made to include all references of nomenclatural importance.

The diagnosis placed below each description is purely differential and distinguishes the taxon from others with which it is likely to be confused. Where a species is polytypic, a species diagnosis is given after the description of the subspecies placed first in the text (usually the nominate race).

Measurements are recorded in the following form : (a) mean wing-span (twice distance between apex of fore wing and centre of the thorax), (b) range of measurements of wing span, and (c) number of specimens measured.

Where areas of colour were large enough to allow an accurate assessment, they have been described by the use of the colour atlas compiled by Villalobos-Dominguez and Villalobos (1947).

All the drawings, which in most cases are of type specimens, were made by projecting an image of the slide onto the drawing surface : the drawings are of a ventral view unless otherwise stated. The scale placed near each drawing or group of drawings represents one millimetre : drawings of the various parts of the male genitalia of a given taxon are always to the same scale.

Material

Apart from the large collection of the genus in the British Museum (Nat. Hist.) including much material from the Rothschild collection and the collection from the Federated Malay States Museum, further important material and type specimens have been kindly lent to me by the following institutions : Deutsches Entomologisches Institut, Berlin-Friedrichshagen; Hope Department of Entomology, Oxford ; Institut Royal des Sciences Naturelles de Belgique, Bruxelles; Landbouwhogeschool te Wageningen ; Museum National d'Histoire Naturelle, Paris ; Naturhistorisches Museum, Vienna ; Naturhistoriska Riksmuseum, Stockholm ; Rijksmuseum van Natuurlijke Historie, Leiden ; Zoologisches Forshungsinstitut und Museum Alexander Koenig, Bonn ; Zoologisches Museum der Humboldt Universität, Berlin.

Type specimens are in the British Museum (Nat. Hist.) unless otherwise stated. All types have been examined except for the type of *arikana* Matsumura which is presumably in Japan, and that of *sadana* Moore which is probably lost (see Horn and Kahle (1935–1937)).

Acknowledgments

My grateful thanks are due to the following gentlemen who kindly arranged loans of material through their respective institutions: Professor Dr. H. Sachtleben, Professor G. C. Varley, Mr. E. Taylor, Dr. A. Collart, Professor W. Roepke, Dr. P. Viette, Dr. Schönmann, Dr. R. Malaise, Dr. A. Diakonoff, Dr. H. Höne and Professor Dr. E. M. Hering. I am especially grateful to Dr. H. Höne who placed at my disposal the whole of his invaluable Oriental collection.

Species removed from ***Tridrepana*** Swinhoe

Five species catalogued under *Tridrepana* Swinhoe by Gaede (1931) must be removed from the genus.

Three of these species can be placed in *Strepsigonia* Warren, resulting in the following new binomina:

Strepsigonia diluta (Warren), 1897, *Novit. zool.* **4**: 18. (COMB. NOV.)
Strepsigonia subobliqua (Warren), 1897, *Novit. zool.* **4**: 18. (COMB. NOV.)
Strepsigonia quadripunctata (Walker), 1862, *J. Linn. Soc.* (*Zool.*) **6**: 175. (COMB. NOV.)

The position of the remaining species, *Drepanodes trilinearia* Moore, 1867, *Proc. zool. Soc. Lond.* **1867**: 618 and *Tridrepana trisulcata* Warren, 1896, *Novit. zool.* **3**: 340, is doubtful: they are closely related to each other and to *Drepana pulvis* Oberthür. None of the above species can be correctly placed in *Drepana* Schrank however.

Tridrepana Swinhoe

Tridrepana Swinhoe, 1895, *Trans. R. ent. Soc. Lond.* **1895**: 3. Type by subsequent designation, *Drepana albonotata* Moore (Warren, 1922, *Gross-Schmetterl.* **10**: 464).
Tridrepana Swinhoe, Warren, 1896, *Novit. zool.* **3**: 339.
Tridrepana Swinhoe, Warren, 1903, *Novit. zool.* **10**: 346.
Tridrepana Swinhoe, Swinhoe, 1905, *Ann. Mag. nat. Hist.* (7) **16**: 620.
Tridrepana Swinhoe, Gaede, 1931, *Lepid. Cat.* **49**: 28.
Tridrepana Swinhoe, Gaede, 1933, *Bull. Mus. Hist. nat. Belg.* **9**, No. 43: 1.
Tridrepana Swinhoe, Bryk, 1943, *Ark. Zool.* **34**A, No. 13: 15.
Iridrepana (sic) Swinhoe, Warren, 1922, *Gross-Schmetterl.* **10**: 464.
Iridrepana (sic) Swinhoe, van Eecke, 1929, *Zoöl. Meded.* **12**: 77.
Konjikia Nagano, 1917, *Bull. Nawa ent. Lab.* **2**: 39. Type by original designation and monotypy, *Drepana crocea* Leech.
Konjikia Nagano, Matsumura, 1921, *Thous. Ins. Japan Addit.* **4**: 949.
Drepana Schrank, Moore, 1865, *Proc. zool. Soc. Lond.* **1865**: 816.
Drepana Schrank, Snellen, 1876, *Tijdschr. Ent.* **20**: 19.
Drepana Schrank, Moore, 1879, *Descr. Lep. Atk.* p. 83.
Drepana Schrank, Cotes and Swinhoe, 1887, *Cat. Moths India* p. 184.
Drepana Schrank, Leech, 1888, *Proc. zool. Soc. Lond.* **1888**: 648.
Drepana Schrank, Hampson, 1892, *Fauna Brit. India Moths* **1**: 333.
Drepana Schrank, Warren, 1896, *Novit. zool.* **3**: 272.
Drepana Schrank, Hampson, 1897, *J. Bombay nat. Hist. Soc.* (2) **11**: 287.
Drepana Schrank, Leech, 1898, *Trans. R. ent. Soc.* **1898**: 365.
Drepana Schrank, Dudgeon, 1899, *J. Bombay nat. Hist. Soc.* (4) **12**: 651.
Drepana Schrank, Hampson, 1910, *J. Bombay nat. Hist. Soc.* (1) **20**: 98.
Drepana Schrank, Strand, 1911, *Gross-Schmetterl.* **2**: 201.
Drepana Schrank, Gaede, 1931, *Lepid Cat.* **49**: 17.

Callidrepana Felder, Butler, 1886, *Ill. Lep. Brit. Mus.* **6** : 17.
Callidrepana Felder, Butler, 1887, *Ann. Mag. nat. Hist.* (5) **19** : 224.
Callidrepana Felder, Cotes and Swinhoe, 1887, *Cat. Moths India*, p. 186.
Callidrepana Felder, Kirby, 1892, *Syn. Cat. Lep. Het.* p. 730.
Callidrepana Felder, Swinhoe, 1895, *Trans. R. ent. Soc. Lond.* **1895** : 3.
Platypteryx Laspeyres, Kirby, 1892, *Syn. Cat. Lep. Het.* p. 730.
Albara Walker, Kirby, 1892, *Syn. Cat. Lep. Het.* p. 734.

Type species *Drepana albonotata* Moore

DESCRIPTION : MALE. Palp slender, upcurved to just above labrum, yellow. Antenna strongly bipectinate and plumose from base to near apex, longest antennal pectination longer than greatest diameter of eye except in *rectifascia* ; yellow, often irrorated proximally with brown. Head reddish brown immediately anterior to antennae, rest of head yellow or orange.

Thorax usually with narrow whitish anterior border (scales of anterior part of patagia) ; rest of thorax and abdomen as for ground colour of corresponding surfaces of wings except in *subtusmaculata*. Patagia small. Tegulae well developed, extending posteriorly nearly to apex of V-shaped suture of mesothorax. Fore wing weakly to strongly falcate apically, outer margin straight or slightly convex. R_1 arising from between one-half and two-thirds length of areole (free, from cell in *flava*) ; R_2 from near end or areole ; R_4 anastomosing with R_3, and sometimes with base of R_2, to near apex of wing, forming areole ; R_4 stalked with R_5 ; R_5 usually stalked with M_1 ; remaining veins as in Text-fig. 1. Ground colour of upperside of fore wing usually yellow but brown in *mediata*, *olivacea* and *cervina* ; frequently lustrous. Proximal part of costa usually darker than rest of wing. Wing markings (except for *melliflua*) usually reddish-brown except for medial spots and distal edge of anterior part of subterminal ; antemedial always present ; combination of two or more medial spots usually present, usually whitish edged with brown (Text-fig. 1) ; additional spots sometimes present at end of cell posterior to latter spots, especially in species group *sadana* ; brown medial shade present in most species groups ; postmedial simple or double, usually lunulate ; subterminal usually well marked and darker than other wing markings, individual markings greatly enlarged in anterior part of wing and edged distally with whitish scales ; marginal shade usually present between anterior part of subterminal and outer margin ; fringe of outer margin similar in colour to adjacent region of wing (entirely dark in *marginata*). Ground colour of upperside of hind wing similar to fore wing. Colour and pattern of markings similar to fore wing but usually with only posterodistal and discocellular spot present, subterminal markings (sometimes absent) not enlarged anteriorly, and medial shade usually absent. Hind wing with $Sc+R_1$ approximating to Rs for short distance distal to end of cell in most species of species group *fulvata* but anastomosing for short distance with Rs in remaining species groups and in most specimens of *melliflua* and *acuta*. Underside of fore wing always yellow, usually slightly lustrous ; medial spots and anterior part of postmedial usually moderately well marked ; fringe of outer margin as for upperside. Patch of dark brown, thickened scales (possibly sensory) at base of cell in species group

crocea, and in *microcrocea* and *rectifascia*. Frenulum usually not or only slightly clavate apically ; strongly clavate in *marginata* and *rectifascia*. Ground colour of hind wing as for fore wing ; without markings in species groups *fulvata, albonotata, crocea, olivacea* and *postica* ; discocellular and posterodistal spot usually well marked in species group *sadana* ; discocellular and posterodistal spot and anterior part of distal postmedial line strongly marked in *flava*.

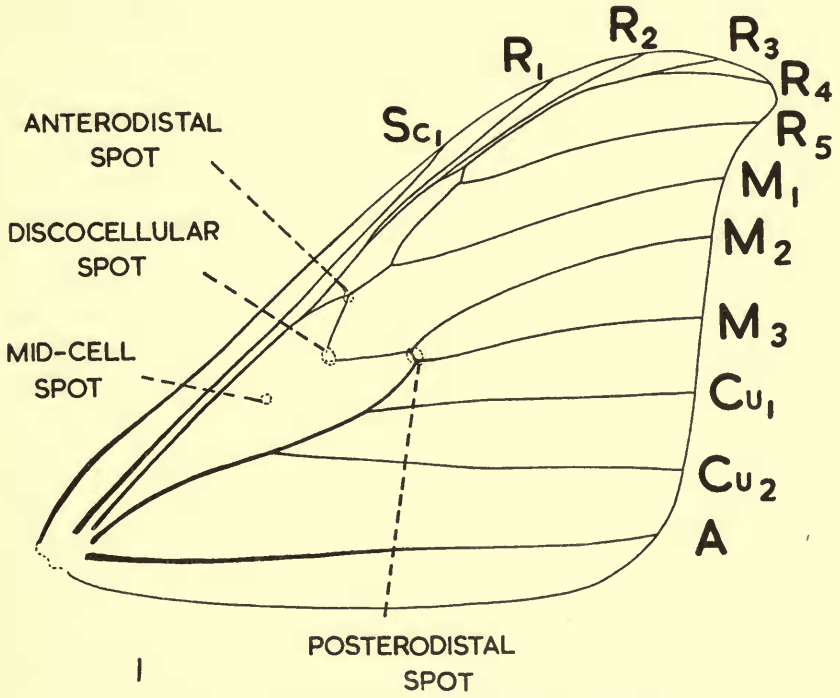


FIG. 1. Fore wing of *Tridrepana fulvata* (Snellen).

FEMALE. As for male but with following differences. Larger. Longest antennal pectination usually shorter than greatest diameter of eye, sometimes just longer than diameter of antennal shaft at that point. Outer margin of fore wing usually slightly or moderately convex.

GENITALIA : MALE. Saccus usually well developed, small in species group *sadana*. Valve small and rounded in species group *sadana* with longitudinal sulcus along middle of outer surface and corresponding ridge on inner surface ; valves usually widely separated medially. Valve moderately small in *postica* and *argentistriga* ; usually large in remaining species, with inner surface variously lobed and spined and usually densely hairy, outer surface slightly hairy, and dorsal margin slightly dilated basad ; valves usually contiguous medially. Anellus poorly developed in species groups *postica, sadana* and *flava* ; moderately well developed in species group *crocea* ; usually strongly developed dorsal and lateral to base of aedeagus in remaining species groups, variously shaped and ornamented. Gnathus usually

well developed ; medial pad usually present, spinose or tuberculate and produced posteriorly as free sub-anal flap in species groups *albonotata*, *olivacea* and most of *crocea* ; sometimes with variously shaped lobes and processes medially ; lateral arm on either side of medial structures usually well developed. Tegumen well developed. Socius hairy, usually small and rounded ; long in *rectifascia* and species groups *crocea* and *flava*. Uncus bifurcate posteromedially, usually hairy, variously shaped. Aedeagus usually with inner and outer cornutus (Text-fig. 11) and spinose vesica ; species groups *postica* (except for *rectifascia*) and *sadana* without cornuti ; inner cornutus alone present in *flava*. Eighth sternite forming part of genitalic apparatus, usually strongly developed and often bilobed posteriorly, apodemes long ; less strongly developed in species group *sadana* (except for *marginata*), with short apodemes. Eighth tergite forming dorsal shield over rest of genitalic structures, usually sub-quadrate, slightly tapered posteriorly ; apodemes moderately well developed in most species groups but small in species group *sadana* (except for *marginata*).

FEMALE. Preostial sternite usually hairy or minutely spinose ; concave plate or plates present in species group *albonotata* ; submembranous lobe on either side in species group *olivacea*. Bursa copulatrix with pair of signa or without signa. Ductus bursae long and sculptured in most species groups, shorter and unsculptured in species groups *postica* and *sadana* ; ostium with operculum in few species. Spermatheca nearly spherical ; unornamented and with short spermathecal duct in species groups *postica* and *sadana* and most of *albonotata* ; radially ornamented and with long duct in remaining species. Ostial segment usually well developed, sometimes produced posterodorsally over ovipositor lobes : submembranous lobe present on either side in species group *olivacea*. Two pairs of ovipositor lobes usually present : papillate and hairy ventral pair, not united with each other medially ; dorsal pair usually partially fused with each other medially, sometimes forming hood over ventral lobes, less distinctly papillate and hairy. Additional one or more pairs of lobes associated with above lobes in some species.

DISTRIBUTION. Species group *fulvata* occurs in the whole of the Oriental region and in the Austro-Malayan subregion : the Phillippines, Celebes and Buru all possess a single peculiar species and two species are peculiar to New Guinea ; one species occurs in both the Indian and Indo-Malayan subregions, and one in both the Indian and Indo-Chinese subregions. The range of species group *albonotata* is similar to that of *fulvata* ; *obscura* is apparantly peculiar to Bali and Java, and *aequinota* to Buru. In the species group *crocea*, one species occurs in both the Indo-Chinese subregion and in Japan (Manchurian subregion) and one in both the Indian and Indo-Malayan subregions. All the species of species group *olivacea* are confined to New Guinea and associated islands. Species group *postica* occurs in the Indian and Indo-Malayan subregions and in Celebes ; *rectifascia* is peculiar to the Philippines. The nine species of species group *sadana* are found only in the Indian and Indo-Chinese subregions. *T. flava* occurs in the Indian and Indo-Malayan subregions and in Celebes.

The wide distribution of the polytypic *albonotata* is worthy of note, the species

occurring in each subregion of the Oriental region, and in Celebes. Together with *aequinota* and *mediata* the species forms a single extensive superspecies.

The forms from Celebes and Buru, which in every case are peculiar species or subspecies (Celebes has one peculiar species and three peculiar subspecies, and Buru two peculiar species), are more closely related to the Oriental than to the Australasian fauna, no New Guinea species being found in either island. Further material from the Lesser Sundas and the Moluccas would be interesting in determining the zoogeographical boundary between the above faunas.

Only one species, *crocea*, extends into the Palaearctic, the species occurring in Japan as well as in certain south-eastern provinces of China.

The paucity of the material from South Burma, Indochina, Siam and North Malaya does not allow conclusions to be made regarding the boundaries separating the Indian, Indo-Chinese and Indo-Malayan elements of the genus ; nor is it possible to comment upon the apparent distinctness of the Ceylonese representatives until further material is available.

Discussion. Throughout most of the genus the male genitalia provides the most useful and constant diagnostic characters. In the species group *sadana*, however, the genitalic differences between males of related species are much smaller and less important diagnostically than the colour pattern of the wings, which without exception provides adequate and reliable characters. A classification based only on male genitalia characters would undoubtedly require the above species group to be separated from the remaining groups ; separation, however, would serve no useful purpose and its affinities with the rest of the genus, based on external characters, are obvious.

Both sexes of *fulvata* and *lunulata* occur in one of two colour forms : one with the ground colour of the upperside of the fore wing entirely yellow, and the other with a reddish-brown medial shade on the fore wing. The latter form is apparently less common than the former. In *olivacea* (male) there are again two distinct colour forms, one similar to the shaded or banded form of the species mentioned above, and the other with the upperside of both wings brown : in this case, the brown specimens outnumbered the yellow in the material examined. The only specimen of *cervina* available for study belonged to the brown form of the species.

Key to Species Groups

1.		Hind tibia with one pair of spurs	2
		Hind tibia with two pairs of spurs (*flava*)	47
2	(1)	Upperside of fore wing with mid-cell spot	3
		Upperside of fore wing without mid-cell spot	6
3	(2).	Upperside of fore wing with anterodistal spot (*fulvata* gr.)	7
		Upperside of fore wing without anterodistal spot	4
4	(3).	Postmedial of upperside of hind wing double, at least near inner margin; postmedial of underside of fore wing corresponding to distal postmedial of upperside	5
		Postmedial of upperside of hind wing simple ; postmedial of underside of fore wing simple, corresponding to postmedial of upperside (*olivacea* gr.)	32

5 (4). Upperside of fore wing with medial shade, underside of male with dark patch of scales at base of cell . . . . . (*crocea* gr.) 28
Fore wing without such medial shade or dark patch . . . (*sadana* gr.) 38
6 (2). Postmedial of upperside of hind wing double, lunulate . . (*albonotata* gr.) 18
Postmedial of upperside of hind wing simple, non-lunulate . . (*postica* gr.) 35

N.B. The remainder of the key is based on male characters only, except in species groups *postica* and *sadana* where the key applies to both sexes.

Species Group *fulvata*

7 (3). Upperside of fore wing with white mid-cell spot (Pl. 1, fig. 4) . . . *trialba*
Upperside of fore wing with brown mid-cell spot 8
8 (7). Upperside of both wings without dark brown markings . . . . *melliflua*
Upperside of both wings with dark brown markings 9
9 (8). Male genitalia as in Text-fig. 32 . . . . . (*arikana*) 10
Male genitalia not as above 11
10 (9). Outer lateral surface of each posterior process of uncus with strongly toothed carina . . . . . *arikana falcipennis*
Uncus only weakly carinate laterally, with single small tooth . . *arikana arikana*
11 (9). Posterior process of anellus concave ventrally (Text-figs. 2, 6) . . (*fulvata*) 12
Posterior process of anellus convex ventrally 13
12 (11). Male genitalia as in Text-fig. 2 . . . . . *fulvata fulvata*
Male genitalia as in Text-fig. 6 . . . . . *fulvata brevis*
13 (11). Uncus with long apically bifurcate ventral arms, and rounded dorsal lobes (Text-figs. 10, 14) . . . . . (*lunulata*) 14
Uncus not as above 16
14 (13). Male genitalia as in Text-fig. 10 . . . . . *lunulata fasciata*
Male genitalia not as above 15
15 (14). Male genitalia as in Text-fig. 14 . . . . . *lunulata prolata*
Male genitalia not as above (anellus probably bifurcate) . . *lunulata lunulata*
16 (13). Gnathus with strongly sclerotized posterior flange; uncus bisigmoid in shape (Text-fig. 19) . . . . . *sigma*
Male genitalia not as above 17
17 (16). Posterior process of anellus sharply pointed (Text-fig. 20) . . . . *acuta*
Posterior process of anellus spatulate (Text-fig. 28) . . . . *spatulata*

Species Group *albonotata*

18 (6). Underside of fore wing with patch of dark scales at base of cell . *microcrocea*
Underside of fore wing without such patch 19
19 (18). Upperside of both wings brown . . . . . *mediata*
Ground colour of upperside of wings yellow 20
20 (19). Medial shade present on upperside of both wings 21
Medial shade only present on fore wing 22
21 (20). Eighth sternite deeply emarginate posteriorly (Text-fig. 50) . . *albonotata ferrea*
Eighth sternite not emarginate (Text-fig. 51) . . . *albonotata pervasata*
22 (20). Upperside of fore wing with anterior markings of subterminal only slightly larger than posterior markings (Pl. 1, fig. 8) . . . . . *aequinota*
Anterior markings of subterminal much larger than anterior markings . . 23
23 (22). Upperside of fore wing with proximal postmedial line nearly straight posterior to M_3 (Pl. 1, fig. 11) . . . . . *sera*
Upperside of fore wing with proximal postmedial line lunulate posterior to M_3, inflexed immediately posterior to Cu_2 24
24 (23). Male genitalia as in Text-fig. 61 . . . . . *obscura*
Male genitalia not as above 25

25 (24). Eighth sternite as in Text-fig. 39 26
Eighth sternite not as above 27
26 (25). Male genitalia as in Text-fig. 38 . . . . . *albonotata angusta*
Male genitalia as in Text-fig. 41 . . . . . *albonotata rotunda*
27 (25). Posterior margin of eighth sternite deeply emarginate (Text-fig. 36) *albonotata albonotata*
Posterior margin of eighth sternite not deeply emarginate (Text-fig. 44) *albonotata celebesensis*

Species Group *crocea*

28 (5). Upperside of hind wing with strongly marked medial shade (Pl. 1, fig. 15) *subtusmaculata*
Upperside of hind wing without medial shade 29
29 (28). Gnathus with three sclerotized processes posteriorly (Text-figs. 77, 81) . . 30
Gnathus without posterior processes . . . . . (*septempunctata*) 31
30 (29). Anterior process of gnathus broad, terminating in two prongs . . *crocea*
Anterior process of gnathus narrow, pointed . . . . . *unispina*
31 (29). Socius with short inwardly directed process at base *septempunctata septempunctata*
Socius without such process . . . . . *septempunctata nitidior*

Species Group *olivacea*

32 (4). Upperside of fore wing with narrow medial shade (pl. 49*c*, Gross-Schmetterl. 10.) . . . . . *obliquitaenia*
Upperside of fore wing with broad medial shade (Pl. 1, figs. 13, 14) . . 33
33 (32). Male genitalia as in Text-figs. 93–95 . . . . . *examplata*
Male genitalia not as above . . . . . (*olivacea*) 34
34 (33). Male genitalia as in Text-figs. 96–98 . . . . . *olivacea olivacea*
Male genitalia as in Text-figs. 99–101 . . . . . *olivacea crocata*

Species Group *postica*

35 (6). Subterminal fascia present on upperside of hind wing 36
Subterminal fascia absent on upperside of hind wing . . (*argentistriga*) 37
36 (35). Upperside of fore wing with anterior subterminal markings greatly enlarged (Pl. 2, fig. 4); underside with patch of dark thickened scales at base of cell *rectifascia*
Upperside of fore wing with anterior markings of subterminal equal in size to posterior markings (Pl. 2, fig. 1); underside without dark patch at base of cell . . . . . *postica*
37 (35). Upperside of fore wing with whole of subterminal well marked (Pl. 2, fig. 2); upperside of hind wing without non-lustrous band between postmedial and outer margin . . . . . *argentistriga argentistriga*
Upperside of fore wing with posterior subterminal markings absent (Pl. 2, fig. 3); upperside of hind wing with non-lustrous band between postmedial and outer margin . . . . . *argentistriga brevilinea*

Species Group *sadana*

38 (5). Upperside of fore wing and posterior half of hind wing irrorated with dark brown scales . . . . . *thermopasta*
Upperside of wings not irrorated as above 39
39 (38). Hind wing with posterior part of outer marginal fringe darker than rest of fringe (Pl. 2, fig. 11) . . . . . *marginata*
Hind wing with outer marginal fringe unicolorous 40

40 (39). Upperside of hind wing with distal postmedial line only developed posterior to Cu_2 41
Upperside of hind wing with distal postmedial line well developed anterior to and posterior to Cu_2 44
41 (40). Upperside of fore wing with faintly marked lunulate subterminal edged distally with lustrous whitish line 42
Upperside of fore wing with subterminal not as above, only developed anterior to M_3 43
42 (41). Colour pattern of upperside strongly marked (Pl. 2, fig. 8); with dark brown markings . . . . . *sadana*
Colour pattern of upperside weakly marked; without dark brown markings *aurorina*
43 (41). Fore wing strongly falcate apically (Pl. 2, fig. 6) . . . . . *adelpha*
Fore wing moderately falcate apically (Pl. 2, fig. 7) . . . . . *finita*
44 (40). Upperside of hind wing with subterminal . . . . . *maculosa*
Upperside of hind wing without subterminal 45
45 (44). Ground colour of upperside of hind wing and proximal part of fore wing, light yellow . . . . . (*rubromarginata*) 46
Ground colour of upperside of both wings dull brownish orange (Pl. 2, fig. 12) . *fulva*
46 (45). Upperside of fore wing with diffuse dark brown patch between Cu_1 and Cu_2 proximal to antemedial (Pl. 2, fig. 5) . . . . *rubromarginata indica*
Upperside of fore wing without such patch . . *rubromarginata rubromarginata*

Species Group *flava*

47 (1). Male genitalia as in Text-figs. 145, 146, 151 . . . . . *flava flava*
Male genitalia not as above 48
48 (47). Male genitalia as in Text-figs. 148, 152 . . . . . *flava contracta*
Male genitalia as in Text-figs. 150, 153. . . . . *flava unita*

Species group *fulvata* Snellen

Except for *arikana* Matsumura, this group forms a remarkably homogeneous unit. Each species possesses four medial spots and a simple postmedial on the upperside of both wings. The anellus in the male genitalia is produced posteriorly as a long, free process, except in *arikana* Matsumura where this process is closely apposed to the medial part of the gnathus. In the female the spermatheca is radially ornamented, the signa slightly concave and the dorsal ovipositor lobes small.

fulvata Snellen, *lunulata* Butler and *arikana* Matsumura are polytypic.

fulvata Snellen and *lunulata* Butler exhibit polymorphism.

Tridrepana fulvata fulvata (Snellen)

Drepana fulvata Snellen, 1876, *Tijdschr. Ent.* **20** : 19.
Platypteryx fulvata (Snellen), Kirby, 1892, *Syn. Cat. Lepid. Het.* p. 731.
Tridrepana fulvata (Snellen), Warren, 1903, *Novit. zool.* **10** : 346.
Iridrepana fulvata (Snellen), van Eecke, 1929, *Zoöl. Meded.* **12** : 77.
Tridrepana fulvata (Snellen), Gaede, 1931, *Lepid. Cat.* **49** : 29.
Iridrepana albonotata (Moore), Warren, 1922, *Gross-Schmetterl.* **10** : 464.
Callidrepana lunulata Butler, van Eecke, 1929, *Zoöl. Meded.* **12** : 77.
Callidrepana lunulata Butler, Gaede, 1931, *Lepid. Cat.* **49** : 29.

Type. Type not designated by Snellen. Species described from Java material,

DESCRIPTION : MALE. 37·2, 30·0–38·0 mm. (25). Outer surface of palp, and head between and posterior to antennae, OOY–15–11° ; head anterior to antennae, OOS–5–12°, to OY–19–5° above labrum ; antenna OOY–17/18–12°, proximal inner pectinations sometimes irrorated with OOS–5–12°, longest pectination about one and a quarter times greatest diameter of eye.

Thorax with narrow whitish anterior border ; rest of thorax and abdomen OOY–17/18–12° above, OY–19–5° below. Fore wing moderately falcate apically ; outer margin straight except at apex. R_1 usually from between one-third and one-half areole ; R_2 from near end of areole, usually from just distal to end ; M_1 usually stalked with R_5. Ground colour of upperside of fore and hind wing as for thorax. Fore wing with proximal half of costa irrorated with OOY–6–8° ; antemedial from one-sixth costa, bent inwards at posterior margin of cell to just over one-quarter inner margin of wing ; mid-cell spot and anterodistal spot, both O–4–10° ; whitish discocellular spot sometimes edged with OOY–17–12° ; white posterodistal spot edged with O–4–10° ; large ovate spot posterior to latter spot and contiguous with it, O–10–12°, usually faintly edged with O–4–10°, variable in size but usually extending posteriorly to midway between Cu_1 and Cu_2 ; postmedial simple, from three-quarters costa, sinuous at first then arched round end of cell to just over half inner margin of wing ; subterminal expanded into dark spots anterior to M_3 (largest between M_1 and M_2) each edged distally with whitish patch ; subterminal continued posteriorly as short narrow dash between M_3 and Cu_1, and Cu_1 and Cu_2, with two similar dashes between Cu_2 and 2A ; marginal shade between anterior part of subterminal and outer margin from apex to Cu_1, O–10–5° ; fringe bordering marginal shade O–5–10°. All fasciae O–4–10°. Wing irrorated with lustrous scales anterior to cell, from base to two-thirds ; all spots and fasciae lustrous, except for ovate spot immediately posterior to posterodistal spot, and dark part of subterminal markings between M_1 and M_3. Hind wing with Sc + R_1 usually approximating to Rs distal to end of cell, sometimes touching at a point. Antemedial from one-quarter costa to one-third inner margin, indistinctly marked ; whitish discocellular spot ; posterodistal spot similarly coloured but edged with dark scales as in fore wing ; postmedial simple, from two-thirds costa to about two-thirds inner margin, interrupted at veins anterior to Cu_2, lunulate between M_2 and Cu_2 ; subterminal of short interneural dashes. Colour of fasciae as for fore wing. Spots and fasciae lustrous, rest of wing non-lustrous. Underside of fore and hind wing OY–19–12°, slightly paler towards inner margin of fore wing. Fore wing with trace of discocellular spot and posterodistal spot ; anterodistal spot strongly marked ; anterior part of postmedial well marked as interneural dashes, O–6–11° ; anterior part of subterminal sometimes well marked, with marginal shade distally ; colour of fringe as for upperside ; other markings may show through faintly from upperside. Hind wing unmarked beneath but with upperside markings sometimes showing through. Ground colour and all markings of underside slightly lustrous.

FEMALE. 39·1, 32·5–45·0 mm. (7). As for male but with following differences. Longest pectination of antenna equal in length to, or shorter than, greatest diameter of eye. Outer margin of fore wing slightly convex, not straight. Upper-

side of fore wing with dark spot posterior to posterodistal spot larger, usually touching Cu_2 posteriorly ; marginal shade between anterior part of subterminal and outer margin not extending posterior to M_3 ; wing lustrous posterior to cell and M_3, from base to immediately proximal to subterminal, paler and more distinctly lustrous distally. Upperside of hind wing with posterodistal spot more sharply edged with dark scales ; area of lustrous scales extending from base to postmedial.

GENITALIA : MALE (Text-figs. 2, 3). Saccus long, digitate. Valve long, tapered, arcuate. Anellus greatly developed ; rounded lobe on each side of base of aedeagus produced anterodorsally, bands fusing medially to form broad medial plate, then reflexed through nearly 360° and produced posteriorly as long, free, cymbiform process, concave ventrally. Gnathus forming subtriangular pad medially, covered with minute hair-like spines ; lateral arms well developed. Socius small. Uncus bifurcate posteriorly, with downcurved dorsal pair of arms, and apically emarginate ventral pair of arms. Aedeagus with inner and outer cornutus well developed ; vesica minutely spinose, with group of longer spines on side opposite outer cornutus. Eighth sternite emarginate posteromedially. Width at anterior margin of eighth tergite equal to least width of eighth sternite, slightly tapered to three-quarters of its length then widened again to posterior margin ; apodeme equal in length to half greatest width of tergite.

FEMALE (Text-figs. 7, 8). Posterior margin of preostial sternite with minutely spinose patch medially. Bursa copulatrix with two nearly identical, scobinate ovate signa situated at opposite sides of bursa. Ductus bursae well sclerotized posteriorly. Ventral lip of ostium forming broad, bilobed operculum. Spermatheca with radial ornamentation proximally. Ostial segment greatly enlarged dorsally, bilobed posteriorly and produced over base of ovipositor lobes. Ventral ovipositor lobes heavily sclerotized basally, papillate and hairy posteriorly. Dorsal ovipositor lobes probably represented by two small posterior lobes.

Banded form.—MALE. As for male described above but upperside of fore wing with dark medial shade (O–9–12°) between antemedial and postmedial fascia, except for small area immediately proximal to postmedial between M_3 and Cu_2, sometimes extending proximal to the antemedial ; veins between end of cell and distal margin of shade lightly irrorated with lustrous scales ; costa bordering shade O–6–7°.

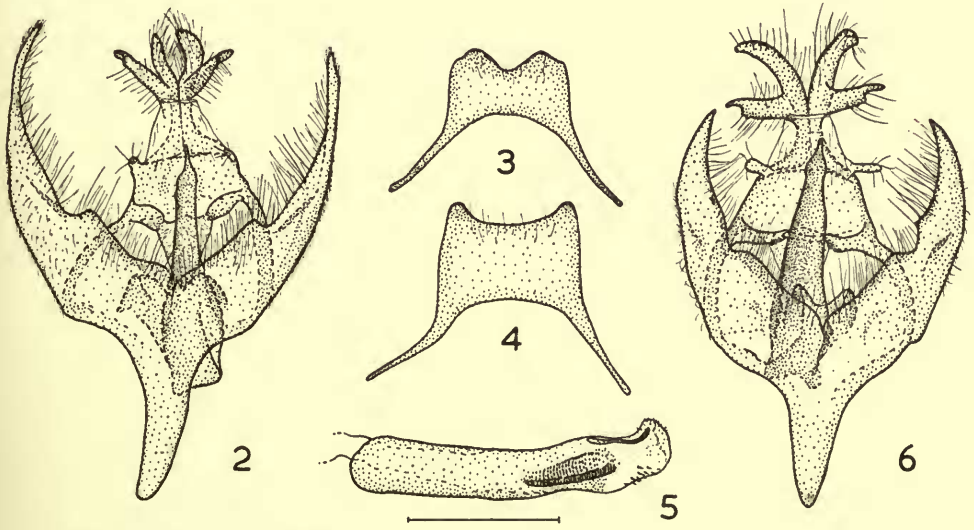
FEMALE. As for female described above, but upperside of fore wing with whole of area between antemedial and postmedial fascia shaded with O–9–12° ; hind wing lightly irrorated with same colour from near base to postmedial, most strongly marked distally.

DIAGNOSIS. Differs from *lunulata* Butler and the remaining species of the species group in the shape of the uncus and the ventrally concave posterior process of the anellus in the male (Text-fig. 2, 3) : in the female the ostial segment is bilobed dorsally and produced over the base of the ovipositor lobes (Text-fig. 7, 8).

DISCUSSION. In the material examined, two males and one female from Java were of the banded form ; this dimorphism is closely paralleled in *lunulata* Butler.

DISTRIBUTION (Text-fig. 154). The race is distributed throughout Malaya, Sumatra, Java, Bali and Borneo. Two females from Celebes may belong to this race.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 1 ♂, N. Borneo, Mt. Mulu, 1–4,000 ft. Aug., Dec., '94, Hose coll.; 2 ♀, Sarawak, Bidi, 1907–1908, C. J. Brooks; 3 ♂, S. E. Borneo, Samarinda, x. 1938, M. E. Walsh; 1 ♂, E. Bali, Git-Git, 5,000 ft., May 1936, J. P. A. Kalis; 2 ♂, 1 ♀, Bali, Low Country, W. Doherty; 4 ♂, E. Java, Nongkodjadjar, 4,000 ft., April, 1934; 2 ♂, E. Java, Tennger, Singalangoe, 5,000 ft., June, July, 1934, J. P. A. Kalis; 1 ♂, Java, Mt. Gedeh, 4,000 ft., 25.x.–2.xi.24, G. Overdijkink; 2 ♂, Java, Mt. Gedeh, Aug., Sept., Oct., 1926; 1 ♀, W. Java, Malabar, Bandoeng; 1 ♂, Java, Soekaboemi, Dec., 1924, G. Overdijkink; 2 ♂, W. Sumatra, Lebong Tandai, 6–15.ix.1921, 20–23.i.1922; 1 ♀, Sumatra; 1 ♂, 3 ♀, Singapore, H. N. Ridley, 1901, 1904, 1905, 1906; 1 ♂, Singapore, Fraser Hill, 12.vi.1930, Ridley; 1 ♂, Fraser Hill, 11.i.1929, 4,250 ft., A. S. Corbet; 2 ♂, 1 ♀, Penang, xi.96, xii.96 i–iv.98, Curtis; 1 ♂, Penang, xii.15–ii.16, C. L. Collenette; 4 ♀, Kuala Lumpur, 23.i, 16.vii, 2.xi, 16.xii.1930, A. S. Corbet; 6 ♂, Malaya, Kuala Lumpur, Jan. 17, Feb. 25, June 23, 12.viii.1931; 2 ♂, Malay Penin., Selangor, Bukit Kutu, 3,300 ft., Sept. 21, 1930, 19.iii.1931, H. M. Pendlebury; 1 ♀, Perak; 2 ♂, Kedah Peak, 3,200 ft., Dec. 1915; 1 ♀, Malay Penins., West coast, Pulau, Jarak, 5 April, 1932, E. Seimund. RIJKSMUSEUM VAN NATUURLIJKE HISTORIE, LEIDEN: 2 ♀, Java occ., Buitenzorg, 1885; 2 ♂, W. Java, Buitenzorg, 1892.



FIGS. 2. and 3. *Tridrepana fulvata fulvata* (Snellen), male. 2. Genitalia. 3. Eighth sternite.
FIGS. 4–6. *T. fulvata brevis* ssp. n., holotype male. 4. Eighth sternite. 5. Aedeagus. 6. Genitalia.

Tridrepana fulvata brevis ssp. n.

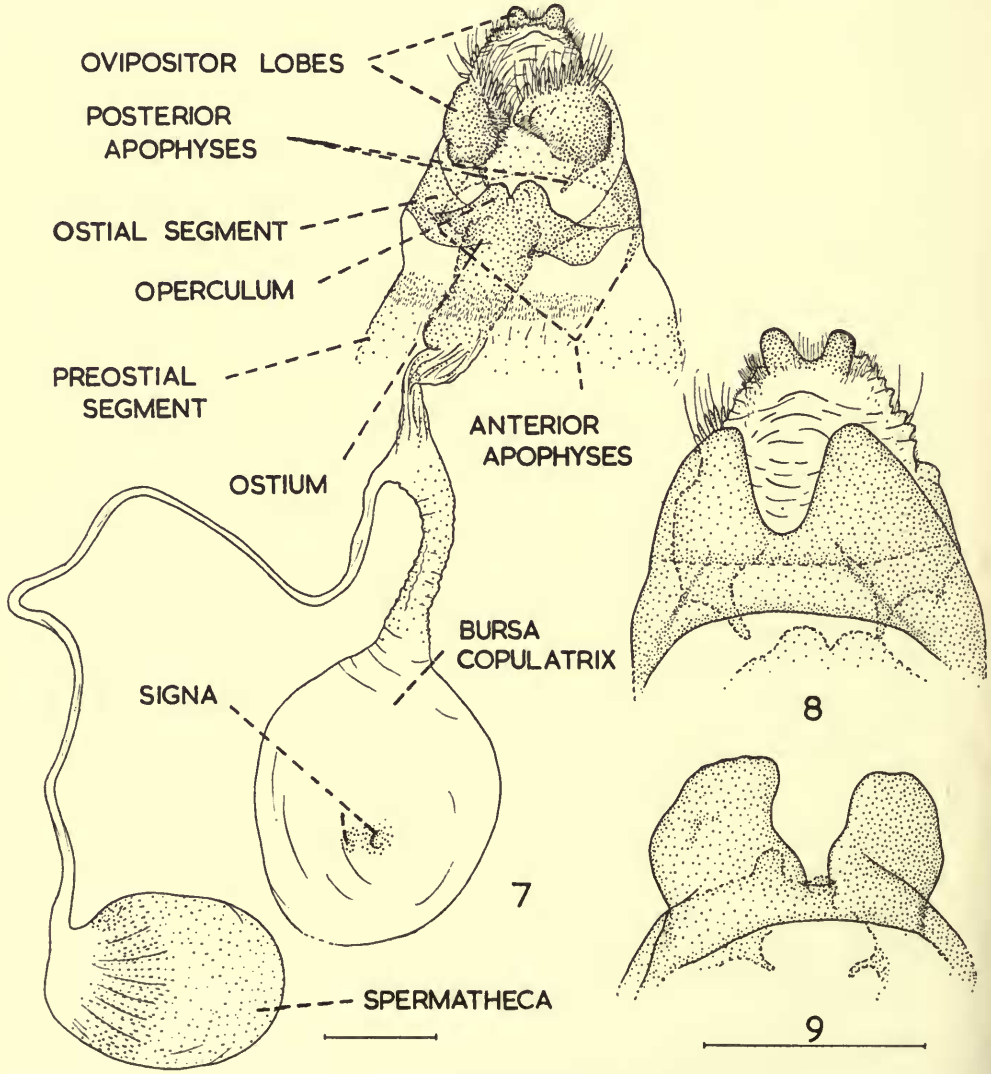
pro parte *Iridrepana albonotata* (Moore), Warren, 1922, *Gross-Schmetterl.* **10**: 464. (fig. 49*a*).

TYPE. Holotype male, Khasis, Sept. 1896; Drepanidae genitalia slide no. 155.

DESCRIPTION and DIAGNOSIS. Male, 34·5, 32·0–36·5 mm. (3). Female, 40·5, 39·0–42·0 mm. (2). No significant difference from nominate externally. Distinguished from it by the following genitalic differences.

MALE. (Text-figs. 4, 5, 6) : valve much shorter ; posterior part of anellus dentate laterally at base ; eighth sternite variable in shape but with broader posterior emargination.

FEMALE. (Text-fig. 9) : dorsal lobes of ostial segment broader posteriorly.



FIGS. 7 and 8. *Tridrepana fulvata fulvata* (Snellen), female.
7. Ventral view. 8. Dorsal view.

FIG. 9. *T. fulvata brevis* ssp. n., allotype female, dorsal view.

DISCUSSION. The race shows no dimorphism in the few specimens examined.

DISTRIBUTION. All the specimens examined were from the Khasis Hills in Assam, India. A male from Burma (in Brit. Mus.) may belong to this race. Two females from Hong Kong, one male and one female from Hainan (in Brit. Mus.), and one male from Lien Ping, China (in Zool. Mus., Berlin) may be subspecifically different.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): allotype ♀, Khasis, Sept., 1896, Drepanidae genitalia slide no. 302; 1 ♀, 2 ♂ paratypes, from type locality.

Tridrepana lunulata fasciata Warren (comb. nov.)

Tridrepana fulvata ab. *fasciata* Warren, 1903, *Novit. zool.* **10** : 346.
Iridrepana fasciata Warren, 1922, *Gross-Schmetterl.* **10** : 464. fig.
Tridrepana fulvata ab. *fasciata* Warren, Gaede, 1931, *Lepid. Cat.* **49** : 29.
Tridrepana fulvata (Snellen), Warren, 1903, *Novit. zool.* **10** : 346.
Tridrepana fulvata (Snellen), Gaede, 1931, *Lepid. Cat.* **49** : 29.

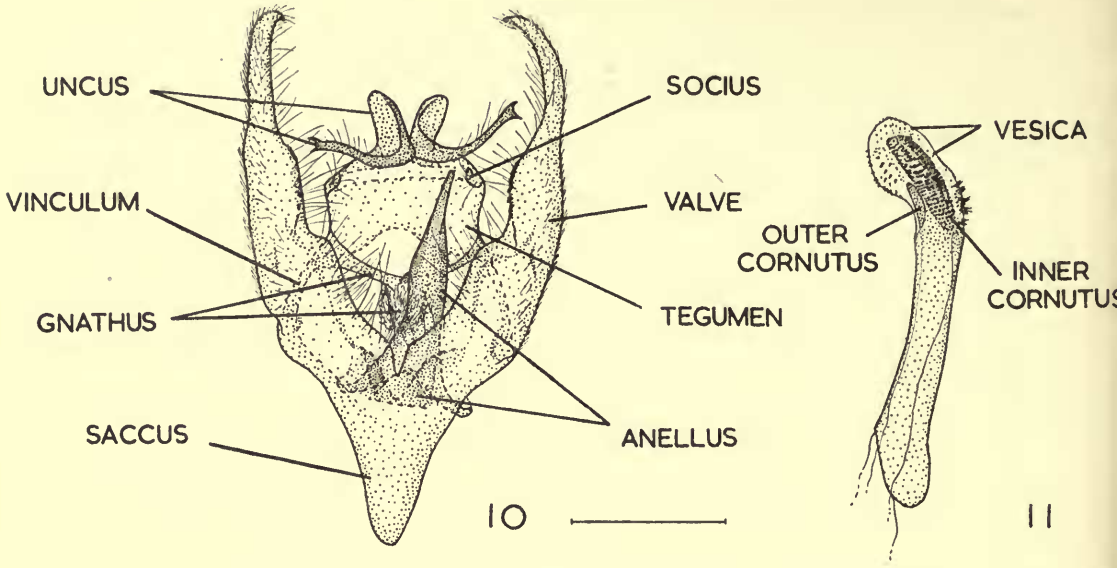
TYPE. I herewith select the following specimen as lectotype: Lectotype male, British New Guinea, Upper Aroa R., March '03, Meek; Drepanidae genitalia slide no. 151.

DESCRIPTION: MALE. 37·2, 33·0–41·5 mm. (51). As for *fulvata* Snellen but with only light irroration of lustrous scales at base of upperside of fore wing, and underside of both wings slightly less lustrous with postmedial of fore wing less distinctly marked or absent.

FEMALE. (Pl. 2, fig. 2.). 42·0, 36·2–49·0 mm. (18). As for male, but with following differences. Longest antennal pectination equal to, or just shorter than greatest diameter of eye. Outer margin of fore wing slightly convex, not straight. Upperside of fore wing lustrous from near base to subterminal, except for cell and area anterior to M_1 and M_2 distal to cell; dark patch posterior to postero-distal spot variable in size but usually extending posteriorly as far as Cu_2; anterior markings of subterminal between M_3 and R_5 with lustrous centres. Hind wing lustrous and slightly paler from base to subterminal. Underside of fore wing with anterior part of subterminal faintly marked; only anterodistal spot may be present.

GENITALIA. MALE (Text-figs. 10, 11). Saccus moderately long, digitate, slightly tapered. Valve long, tapered, arcuate and apically falcate, with toothed carina just inside ventral margin of valve. Structure of anellus similar to *fulvata* Snellen but with posterior free process bifurcate basally and concave dorsally not ventrally. Gnathus with well developed lateral arms; medial pad covered with fine hair-like spines, with small conical process posteriorly. Socius small. Uncus bifurcate, with pair of lateroventrally concave dorsal lobes and pair of apically bifurcate ventral arms. Aedeagus with inner and outer cornutus; vesica minutely spinose, with group of longer spines on side opposite outer cornutus. Eighth sternite emarginate posteromedially. Eighth tergite over twice as long as its greatest transverse width, just wider anteriorly than least width of eighth sternite, slightly tapered posteriorly; apodemes about two-thirds greatest width of tergite.

FEMALE. (Text-fig. 12). As for *fulvata* but with following differences. Each signum of bursa with distinct longitudinal sulcus. Ductus bursae bent to left



FIGS. 10 and 11. *Tridrepana lunulata fasciata* Warren, lectotype male.
10. Genitalia. 11. Aedeagus.

posteriorly. Opercular lobes of ostium evenly rounded. Posterior margin of ostial segment not bilobed dorsally, only slightly produced over base of ovipositor lobes. Dorsal ovipositor lobes shorter, sometimes hardly separated from each other medially ; with conspicuous, hairy structure anteriorly.

Banded form.—MALE. As for corresponding form of *fulvata*, but with lustrous scales evenly distributed over medial shade, not concentrated on veins.

FEMALE. As for female described above but with dark medial shade as in corresponding male form ; colour of shade paler, due to lustrous scales.

DIAGNOSIS. Male genitalia : distinguished from *fulvata* chiefly by the ventrally convex posterior process of the anellus and from both *fulvata* and the other species of the species group by the shape of the uncus. Female genitalia : separated from *fulvata* by the fact that the posterior margin of the ostial segment is not bilobed dorsally.

DISCUSSION. The race has unfortunately taken its name from the apparently least common banded form, a form which also occurs in *fulvata* as well as in *lunulata prolata*. Five males and two females of this form from various localities were found in the material examined.

DISTRIBUTION (Text-fig. 154). The race occurs in Waigeu (off N.W. coast of New Guinea) and throughout New Guinea to Goodenough Island.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : syntype ♀, Brit. New Guinea, Biagi, Mambare R., 5,000 ft., Jan. '06, A. S. Meek ; 8♂, Waigeu, Camp Nok, 2,500 ft., iv–v 1938, L. E. Cheesman ; 2 ♂, 1 ♀, Dutch New Guinea Central Arfak Mts., Ninay Valley, 3,500 ft., Nov. '08 to Jan. '09, Feb. to March '09 ; 1 ♂, 1♀,

Weyland Mts., Mt. Kunupi, Menoo Valley, 6,000 ft., Nov. 1920–Jan. 1921; 3 ♂, Snow Mts., nr. Oetakwa R., up to 3,000 ft., x.xii.1910, A. S. Meek; 6 ♂, Upper Setekwa R., Snow Mts., 2–3,000 ft., Aug.–Sept., A. S. Meek; 2 ♂, 1 ♀, from type locality; 1 ♂, Baie de Geelwink, Ille Jobi, Ansus, 1892, W. Doherty; 3 ♂, Cyclops Mts., Sabron, Camp 2, 2,000 ft., vii.1936, L. E. Cheesman; 2 ♂, Humboldt Bay distr., Wembl., 8, 31.viii.1937; 1 ♂, Jutefa Bay, Pim., 3.vii.1937, W. Stüber; 1 ♀, British New Guinea, Upp. Aroa R., March '03, Meek; 1 ♂, Astrolabe Bay, C. Wahnes; 3 ♂, 2 ♀, Kumusi R., low elevation, June, Aug., Sept. 1907, A. S. Meek; 2 ♂, Kodoka, 1,200 ft., vii.1933, L. E. Cheesman; 1 ♂, Ekeikei, 1,500 ft., Jan.–Feb. 1903, A. E. Pratt; 1 ♂, Mafulu, 4,000 ft., xii.1933, L. E. Cheesman; 1 ♂, Hydrographer Mts., 2,500 ft., Jan. 1918, Eichhorn Bros.; 1 ♂, 1 ♀, Milne Bay, xii.'98, A. S. Meek; 6 ♂, 5♀, Goodenough I., 2,500–4,000 ft., April, May, 1913, A. S. Meek; 1 ♂, Goodenough I., xii.'96, A. S. Meek.

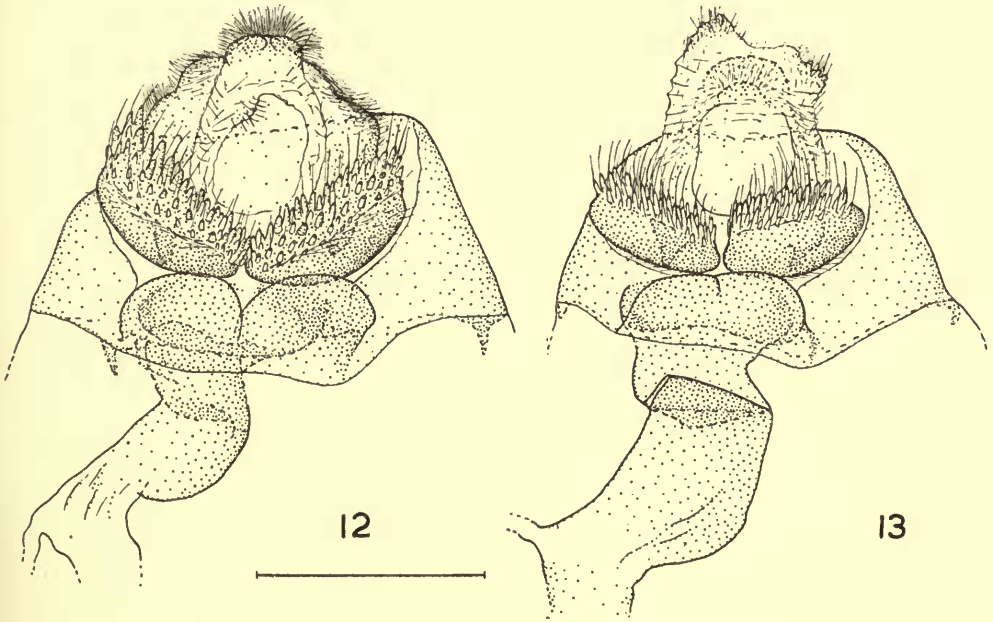


Fig. 12. *Tridrepana lunulata fasciata* Warren, female.
Fig. 13. *T. lunulata lunulata* (Butler), female.

Tridrepana lunulata prolata ssp. n.

Iridrepana fasciata Warren, 1922, *Gross-Schmetterl.* **10**: 464.
Iridrepana fulvata (Snellen), Warren, 1922, *Gross-Schmetterl.* **10**: 464.

Type. Holotype male, New Britain, Talesea, February 1925, A. F. Eichhorn; Drepanidae genitalia slide no. 163.

Description: male. (Pl. 2, fig. 1). 34·4, 30·0–37·0 mm. (9). As for *fasciata*, but with following differences. Upperside of fore wing with subterminal more

strongly marked and edged with lustrous scales, markings only slightly enlarged between R_5 and M_3 ; marginal shade between anterior part of subterminal and outer margin not extending posterior to M_3 ; dark spot posterior to posterodistal spot not extending to Cu_1 : hind wing lightly irrorated with lustrous scales from base to postmedial and short distance distal to postmedial posteriorly ; subterminal as for posterior part of same fascia in fore wing.

FEMALE. 40·5, 39·0–42·0 mm. (2). As for male but with following differences. Longest antennal pectination equal to greatest diameter of eye. Outer margin of fore wing slightly convex ; upperside of base of fore wing, and area between end of cell and posterior part of postmedial, heavily irrorated with lustrous scales ; dark spot posterior to posterodistal spot lustrous, larger, sometimes touching Cu_2. Hind wing strongly and more evenly irrorated with lustrous scales from base to subterminal. All spots and fasciae in both wings edged with irroration of lustrous scales. Lustrous areas paler as in *fasciata* female. Underside with anterior part of subterminal faintly marked in fore wing, but with no trace of other markings in either wing.

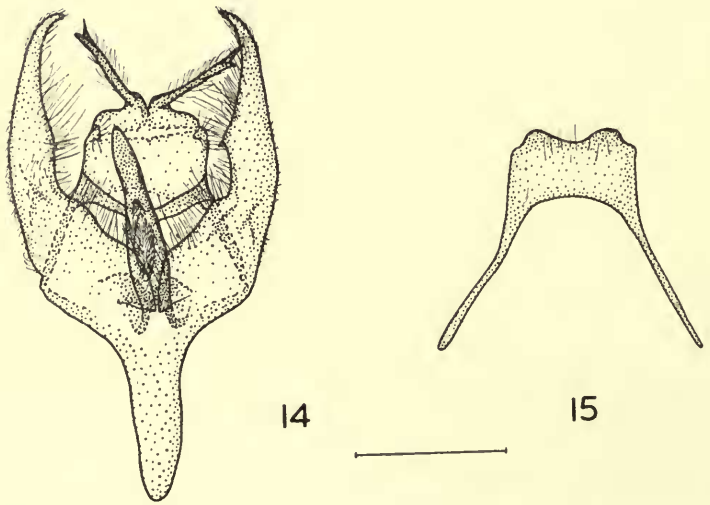
GENITALIA. As for *fasciata* but with following differences.

MALE. (Text-figs. 14, 15). Saccus slightly longer, digitate. Valves more widely separated from each other basad. Posterior, free process of anellus differently shaped. Medial part of gnathus elongate. Dorsal lobes of uncus small, inconspicuous.

FEMALE. Signa, each without longitudinal sulcus. Dorsal ovipositor lobes with weakly developed medial division posteriorly.

Banded form.—MALE. Similar to corresponding *fasciata* form.

DIAGNOSIS. Distinguished from *fulvata*, in both sexes, by the more strongly marked subterminal, the markings of which, however, are not so greatly enlarged



FIGS. 14 and 15. *Tridrepana lunulata prolata* ssp. n., holotype male.
14. Genitalia. 15. Eighth sternite.

anteriorly : lustrous scales of the ground colour surround each subterminal marking.

GENITALIA : MALE. The elongate medial part of the gnathus, and the differently shaped uncus and anellus separate the race from *fasciata*.

FEMALE. The ostial operculum is similar in shape to *fasciata* but the shape of the signa is closer to that of the nominate race.

DISCUSSION. Two males examined were of the banded form : one from New Britain and one from Rook Island.

DISTRIBUTION (Text-fig. 154). New Britain and Rook Island. One male and one female (in Brit. Mus.) from the Admiralty Islands, Manus, may belong to this race.

MATERIAL EXAMINED. (BRITISH MUSEUM (NAT. HIST.) : allotype ♀, with same data as holotype, Drepanidae genitalia slide no. 273 ; 5♂ paratypes, from type locality, January to April 1925, A. F. Eichhorn ; 1 ♀, 3 ♂ paratypes, Rook Isl., July 1913, A. S. Meek.

Tridrepana lunulata lunulata (Butler) (comb. nov.)

Callidrepana lunulata Butler, 1887, *Ann. Mag. Nat. Hist.* (5) **19** : 224.
pro parte *Callidrepana lunulata* Butler, Kirby, 1892, *Syn. Cat. Lepid. Het.* p. 730.
pro parte *Tridrepana fulvata* (Snellen), Warren, 1903, *Novit. zool.* **10** : 346.
pro parte *Iridrepana fulvata* (Snellen), Warren, 1922, *Gross-Schmetterl.* **10** : 464.
pro parte *Iridrepana fulvata* (Snellen), van Eecke, 1929, *Zoöl. Meded.* **12** : 77.
pro parte *Tridrepana fulvata* (Snellen), Gaede, 1931, *Lepid. Cat.* **49** : 29.

TYPE. Holotype female, Solomon Is., Alu (off S.E. coast of Shortland Is.).

DESCRIPTION AND DIAGNOSIS. FEMALE. 38·1, 38·0–38·2 mm. (2). Externally similar to *prolata*. (Badly worn specimens.)

GENITALIA (Text-fig. 13). As for *prolata* but with smaller ostial operculum.

MALE. Not known.

DISTRIBUTION (Text-fig. 154). Apart from the material mentioned below, sixteen specimens from Feni Is., Nissan Is., New Ireland, New Hanover and St. Matthias Is. (in Brit. Mus.) may also belong to this race. The genitalia of the males of the latter specimens is quite distinct from *prolata* in that the posterior process of the anellus is bifurcate.

MATERIAL EXAMINED. BRITISH MUSEUM (Nat. Hist.) : 1 ♀, Solomon Is., Bougaineville, May 1904, A. S. Meek.

Tridrepana melliflua Warren

Iridrepana melliflua Warren, 1922, *Gross-Schmetterl.* **10** : 466 (as new name for *crocea* Leech, Hampson). (fig.)
Tridrepana melliflua Warren, Gaede, 1931, *Lepid. Cat.* **49** : 29.

TYPE. No type selected by Warren (see discussion below).

DESCRIPTION : MALE. 33·0, 31·8–35·4 mm. (12). Outer surface of palp, and head between and posterior to antennae OOY–15–12° ; head anterior to antennae OOS–6–10°, to OY–19–12° above labrum ; antennae as for *fulvata*.

Thorax with narrow whitish anterior border; rest of thorax and abdomen OY–18/19–12° above, OY–19–5° beneath. Shape of both wings as for *fulvata*. Venation similar to *fulvata*, but with R_1 usually arising from half areole in fore wing, and Sc + R_1 usually anastomosing with Rs in hind wing. Ground colour of upperside of both wings OY–18/19–12°; no dark markings on either wing, spots and fasciae indicated by lustrous scales. Fore wing with costa darker than rest of wing, especially at base; antemedial from one-quarter costa to two-fifths inner margin; small mid-cell spot, discocellular spot and posterodistal spot; sometimes with minute anterodistal spot; postmedial from just over two-thirds costa to just over one-half inner margin, lunulate between Cu_1 and Cu_2; subterminal of single interneural dashes. Hind wing similarly marked but without mid-cell spot; postmedial not distinctly lunulate between M_2 and Cu_2; posterior half of wing, from base to postmedial, lightly irrorated with lustrous scales. Underside of both wings OY–19–12°, slightly paler posteriorly in fore wing, and distally in both wings; without markings.

FEMALE. 39·2, 35·2–43·8 mm. (4). As for male but with following differences. Longest antennal pectination equal in length to or just less than greatest diameter of eye. Upperside paler, OY–19–11°. Posterodistal cell spot extending posteriorly to Cu_1.

GENITALIA: MALE. (Text-figs. 17, 18). Saccus long, tapered. Valve long, arcuate, apically digitate; strongly toothed sigmoid carina on ventral surface. Anellus similar to *lunulata fasciata* but with free posterior process acuminate, basal prongs long and strongly divergent. Medial part of gnathus ovate and minutely spinose anteriorly, heavily sclerotized and two-pronged posteriorly; lateral arms well developed. Socius small. Uncus with two pairs of arms: apically bifurcate dorsal pair, and smaller, bifurcate ventral pair. Inner cornutus about two-fifths length of aedeagus; outer cornutus half length of inner; vesica minutely spinose. Eighth sternite well sclerotized (see figure). Eighth tergite twice as long as its greatest width, slightly tapered posteriorly; greatest width equal to least width of eighth sternite; length of apodemes three-quarters greatest width of tergite.

FEMALE. (Text-fig. 16.) As for *lunulata fasciata* but with following differences: ostium without operculum; ostial segment reduced ventrally, but produced dorsally over base of ovipositor lobes; both pairs of ovipositor lobes differently shaped; ductus bursae differently shaped.

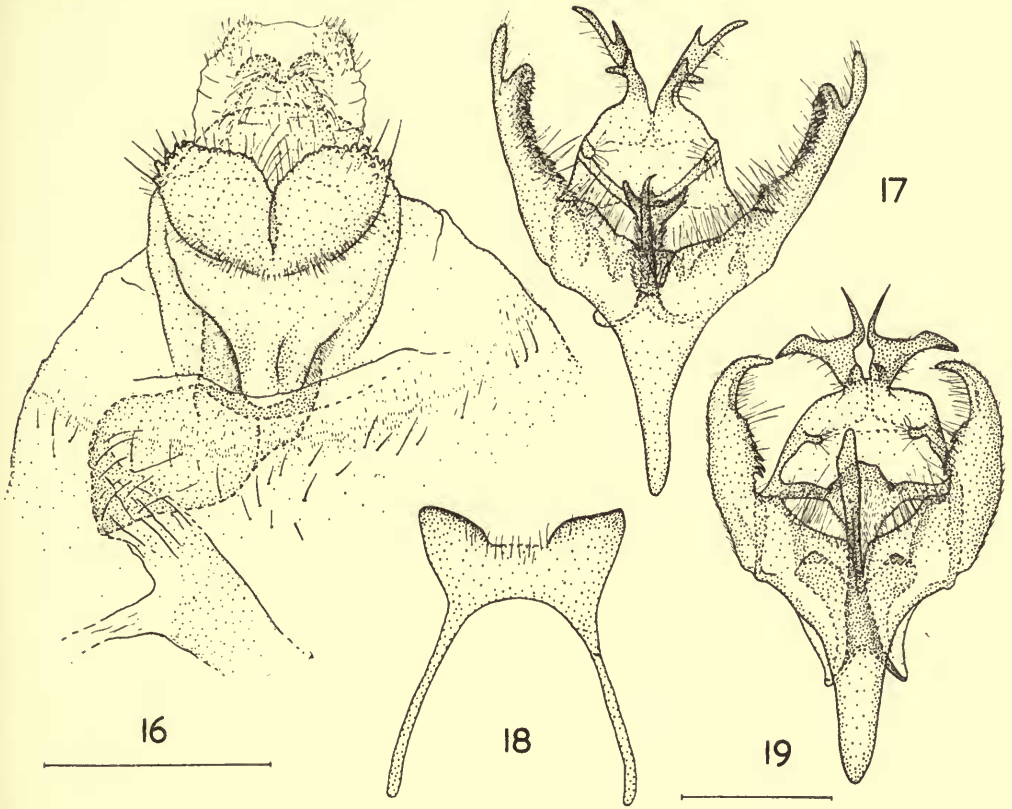
DIAGNOSIS. One of the most easily distinguished species. The upperside of both wings is devoid of all dark markings, the spots and fasciae being indicated by lustrous scales of the ground colour.

DISCUSSION. Warren (1922) created the name *melliflua* as a new name for "*crocea* Hmps. nec Leech", presumably meaning *Tridrepana crocea* (Leech), Hampson. (i.e. a misdetermination by Hampson of specimens of the species now properly called *melliflua* Warren). The name *melliflua* then, was not a new name given by Warren to replace a junior homonym, but the name given by Warren to a then undescribed species.

DISTRIBUTION. Dutch New Guinea.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 6 ♂, 3 ♀, from type

locality ; 4 ♂, Snow Mts., Upper Setekwa R., 2–3,000 ft., Aug. 1910, A. S. Meek ; 2 ♀, Cyclops Mts., Sabron, Camp 2, 2,000 ft., vi, vii.1936, L. E. Cheesman ; 1 ♂, Fak-Fak, 1,700 ft., Dec. '07, Pratt.



FIGS. 16–18. *Tridrepana melliflua* Warren. 16. Female genitalia. 17. Male genitalia. 18. Eighth sternite, male.

FIG. 19. *T. sigma* sp. n., holotype male.

Tridrepana sigma sp. n.

TYPE. Holotype male, Central Buru, Kako, Tagalago, 2,700 ft., May '22, C., F., and J. Pratt ; Drepanidae genitalia slide no. 386.

DESCRIPTION : MALE (Pl. 2, fig. 3). 38·7, 36·0–40·4 mm. (4). Head, palps and antennae as for *lunulata fasciata*.

Thorax and abdomen as for *fasciata*. Wings as for *fasciata* but with following differences. Upperside of fore wing with dark patch posterior to posterodistal cell spot larger, extending to Cu_2 ; anterior markings of subterminal edged distally with larger whitish patch ; posterodistal spot of hindwing more strongly edged with dark scales. Underside of fore wing with more clearly marked postmedial

subterminal extending posteriorly to between M_3 and Cu_1, with trace between Cu_1 and Cu_2.

GENITALIA: MALE (Text-fig. 19). Saccus long, digitate, bluntly pointed. Valve long, tapered, arcuate; hood-shaped apically; oblique dentate carina on inner surface of valve. Anellus similar to *fasciata* but with posterior free part differently shaped. Gnathus forming minutely spinose, pyriform pad medially, with strongly sclerotized, raised posterior margin; lateral arms well developed. Socius small. Uncus divided posteriorly into pair of stout, bifurcate arms. Inner cornutus equal in length to one-third length of aedeagus; outer cornutus short, equal in length to one-third length of inner; vesica spinose, group of large spines on side opposite outer cornutus, longest spine longer than greatest width of outer cornutus. Eighth sternite similar to *fasciata*. Eighth tergite not tapered, slightly constricted at half its length, greatest transverse width just less than greatest width of sternite; apodemes equal in length to half anterior width of tergite.

FEMALE. Not known.

DIAGNOSIS. Separated from *fasciata* by the larger dark patch posterior to the posterodistal cell spot in the male fore wing (upperside). Easily distinguished from other members of the species group by the male genitalia.

DISTRIBUTION (Text-fig.154). Buru Is. and Amboina Is.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 1 ♂, paratype, with same data as holotype; 1 ♂, paratype, Central West Buru, Gamoe, 'Mrapat, 5,000 ft., iii–iv.'22, C.,F., and J. Pratt; 1 ♂ paratype, Amboina, Salahatoe, 1,900 ft., Nov. 1923, C. J. Brooks.

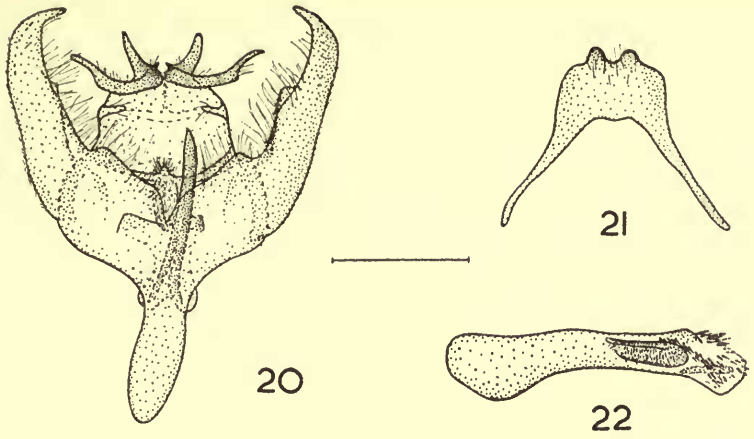
Tridrepana acuta sp. n.

pro parte *Iridrepana albonotata* (Moore), Warren, 1922, *Gross-Schmetterl.* **10**: 464.
pro parte *Tridrepana albonotata* (Moore), Gaede, 1931, *Lepid. Cat.* **49**: 28.

TYPE. Holotype male, Kandy, 9.11; Drepanidae genitalia slide no. 316.

DESCRIPTION: MALE. 34·1, 32·0–35·6 mm. (8). As for *lunulata fasciata* but with following differences. Upperside of both wings with subterminal situated closer to outer margin, more strongly marked; all fasciae more clearly marked, and with more lustrous scales as in *lunulata prolata*. $Sc + R_1$ usually anastomosing with Rs distal to cell in hind wing.

GENITALIA: MALE (Text-figs. 20, 21, 22). Saccus long, digitate. Valve long, tapered, slightly arcuate, apically falcate; dentate carina on inner surface. Anellus similar to *fasciata*, but posterior free process more slender, pointed. Medial pad of gnathus elongate, slightly evaginate, covered with short hair-like spines, with small posterior protuberance; lateral arms well developed. Socius small. Uncus bifurcate posteriorly into two pairs of processes: long ventral pair with indication of apical bifurcation; short dorsal pair, minutely dentate apically. Aedeagus with inner and outer cornutus; vesica strongly spinose with group of spines on side opposite outer cornutus. Eighth sternite with pair of small lobes posteriorly. Eighth tergite quadrate, just wider transversely than greatest width of eighth sternite: apodemes just shorter than half width of tergite.



FIGS. 20–22. *Tridrepana acuta* sp. n., holotype male. 20. Genitalia. 21. Eighth sternite. 22. Aedeagus.

FEMALE. Not known.

DIAGNOSIS. Readily distinguished from *fasciata* and the rest of the species group by the male genitalia.

DISTRIBUTION (Text-fig. 154). Ceylon. Two males and one female from South India may also belong to this species.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 2 ♂ paratypes from type locality; 1 ♂ paratype, Ceylon, Diyatalawa Camp, 4,200 ft., Findlay; 1 ♂ paratype, Haldamulla, 11.34; 1 ♂ paratype, Kegalle, Nov, '09; 1 ♂ paratype, Ceylon; 1 ♂, Ceylon, Uva, 6,000 ft., December.

Tridrepana trialba sp. n.

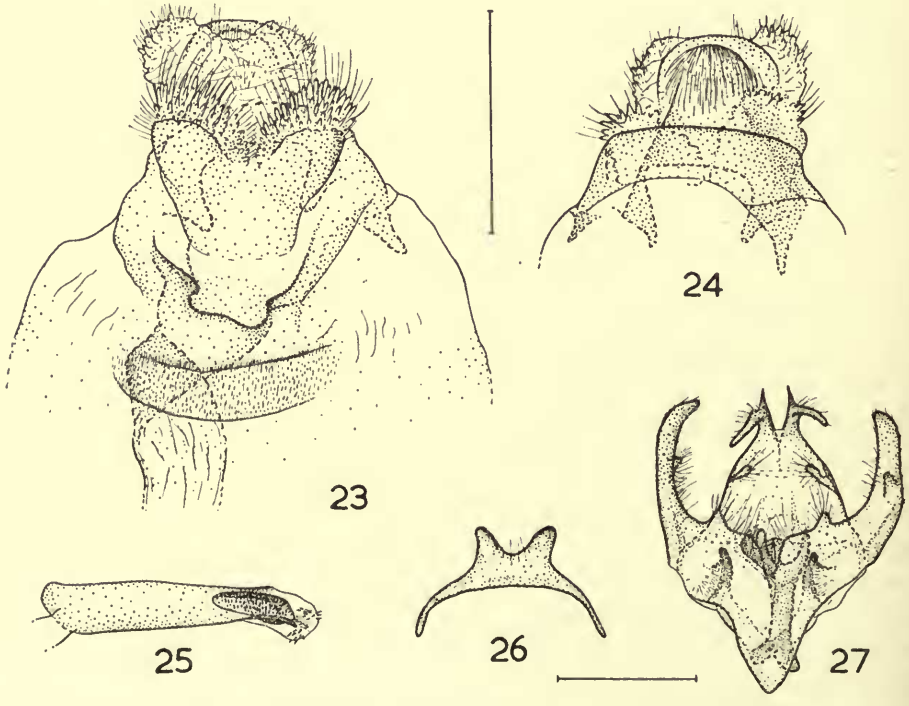
TYPE. Holotype male, W. Celebes, Paloe, G. Rangkoenau, 900 ft., Nov. 1936. J. P. A. Kalis; Drepanidae genitalia slide no. 320.

DESCRIPTION: MALE (Pl. 2, fig. 4.) 31.viii., 27·6–35·0 mm. (52). As for *lunulata fasciata* but with following differences. Upperside of fore wing with mid-cell spot white, not dark brown, edged with OOY–16–12°; discocellular spot also edged with darker scales; darker spot posterior to posterodistal spot larger, discoidal, usually extending to just beyond Cu_1 posteriorly; shade between anterior part of subterminal and outer margin usually not touching M_3 posteriorly; anterior markings of subterminal with whitish distal edges weakly marked or absent. Underside of fore wing with trace of posterodistal spot, discellular spot, and anterior part of postmedial; subterminal developed anteriorly as interneutral spots, well marked between M_1 and M_2.

FEMALE. 38·0, 37·6–38·8 mm. (4). As for male, but with following differences. Longest antennal pectination equal to or just shorter than greatest diameter of eye. Outer margin of fore wing slightly convex, not straight. Upperside of both wings more lustrous, as for *fasciata* female.

GENITALIA : MALE. (Text-figs. 25, 26, 27.) Saccus moderately long, tapered. Valve long, arcuate, slightly tapered. Anellus forming hood-like lobe lateral to base of aedeagus ; each lobe produced anteriorly as flat plate, plates fused medially and produced posteriorly as in *fasciata* ; posterior process two-pronged. Gnathus with hamulate medial spinose process ; lateral arms expanded medially into flat plate. Socius small. Uncus bifurcate posteriorly ; each fork with down-curved, pointed apex, and long, tapered ventral arm. Aedeagus with inner and outer cornutus ; vesica with two main groups of spines, but without group opposite outer cornutus. Posterior margin of eighth sternite deeply emarginate. Eighth tergite just wider at its anterior margin than greatest width of tergite, slightly tapered from anterior margin to nearly half its length, then slightly widened again to posterior margin ; apodemes equal in length to nearly one-third anterior width of tergite.

FEMALE (Text-figs. 23, 24). As for *fasciata* but with following differences. Minutely spinose area at posterior margin of preostial sternite more conspicuous, not extended laterally. Ostium without operculum. Ventral ovipositor lobes differently shaped. Glabrous part of dorsal ovipositor lobes broader, with slight posteromedial emargination.



FIGS. 23 and 24. *Tridrepana trialba* sp. n., allotype female. 23. Ventral view of ostium and ovipositor lobes. 24. Dorsal view of ovipositor lobes.

FIGS. 25–27. *T. trialba* sp. n., holotype male. 25. Aedeagus. 26. Eighth sternite. 27. Genitalia.

DIAGNOSIS. Distinguished from all other species of the species group by the white (not brown) mid-cell spot on the upperside of the fore wing.

DISTRIBUTION (Text-fig. 154). Celebes.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : allotype ♀, W. Celebes, Paloe, Sidaonta 4,500 ft., June 1937, J. P. A. Kalis, Genitalia slide No. 318 ; 1 ♀, 11 ♂ paratypes, 5 ♂, with same data as holotype ; 1 ♂ paratype, 1 ♂, Paloe Sidaonta, 4,500 ft., June 1937, J. P. A. Kalis ; 5 ♂ paratypes, 7 ♂, Paloe, Rangkoenau, 1,800 ft., Dec. 1936, J. P. A. Kalis ; 4 ♂ paratypes, 1 ♂, 1 ♀, Paloe, Koelawi, 3,100 ft., February, March, 1937, J. P. A. Kalis ; 1 ♀ paratype, 2 ♂, S. W. Celebes, Tjamba, nr. Maios, 1,500 ft., February 1938, J. P. A. Kalis ; 1 ♂, Pangean, nr. Maros, 2,000 ft., March 1938. RIJKSMUSEUM VAN NATUURLIJKE HISTORIE, LEIDEN : 1 ♂, paratype, N. Celebes, P. Jv. d. Bergh.

Tridrepana spatulata sp. n.

Drepana fulvata Snellen, Strand, 1922, *Arch. Naturgesch.* A8 : 268.

TYPE. Holotype male, Luzon, Rizal, Montalban, 26 March 1914, A. E. Wileman ; Drepanidae genitalia slide no. 270.

DESCRIPTION : MALE. 33·0, 31·0–35·0 mm. (4). As for *trialba*, but upperside of both wings with more numerous lustrous scales, especially on and near subterminal fascia, and with dark brown, not white, mid-cell spot.

FEMALE. 38·4 mm. (1). As for *trialba* female, but with differences given above for *spatulata* male.

GENITALIA : MALE (Text-figs. 28, 29, 30). Saccus moderately long, tapered. Valve long, tapered, arcuate ; dentate carina on inner surface. Anellus similar to *lunulata fasciata*, but posterior process apically spatulate, dentate laterally near base. Gnathus with short, bluntly pointed medial process with patch of minute hair-like spines near its base ; lateral arms broad, weakly sclerotized. Socius small. Uncus similar to *trialba*, but of different proportions, ventral arms larger, directed posteriorly. Aedeagus with inner and outer cornutus ; vesica spinose, group of long spines on side opposite outer cornutus. Posterior margin of eighth sternite concave. Eighth tergite as wide anteriorly as greatest width of eighth sternite ; slightly widened posteriorly to half its length, then tapered to posterior margin ; convex laterally ; posterior margin about half length of anterior margin ; apodemes about one-third anterior margin.

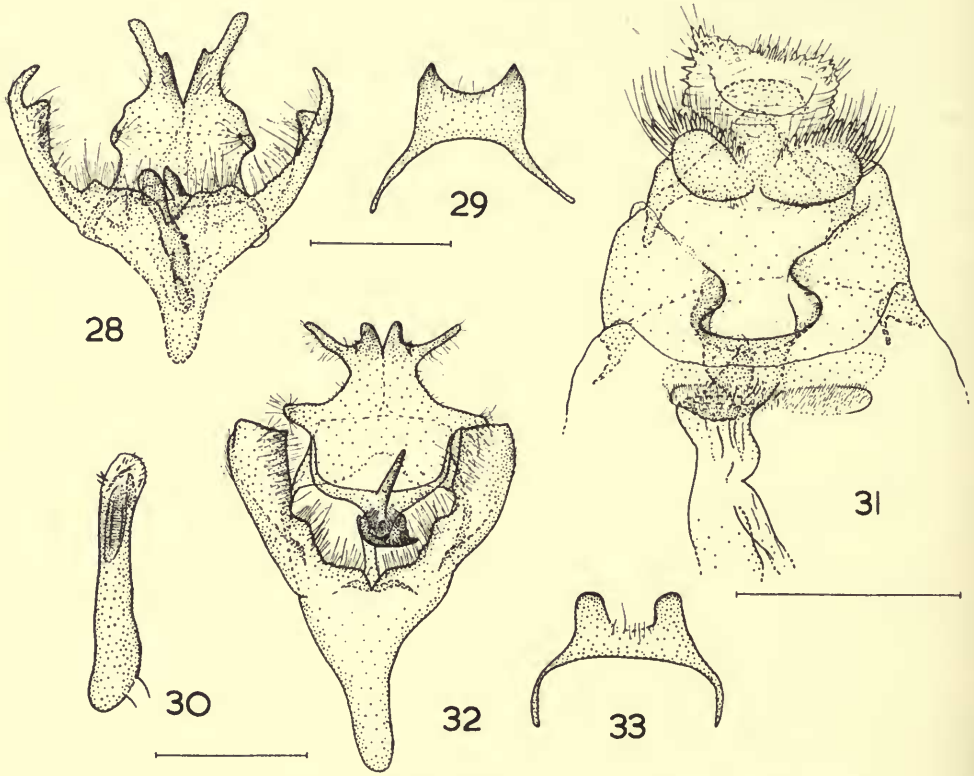
FEMALE. (Text-fig. 31). As for *trialba*, but with following differences : spinose patch at posterior margin of preostial sternite narrower ; bulges at sides of ostium larger; ventral ovipositor lobes differently shaped ; glabrous part of dorsal ovipositor lobes less well developed, no trace of medial emargination.

DIAGNOSIS. The shape of the gnathus and the posterior part of the anellus in the male distinguish the species from its closest relative, *trialba*. In the female the genitalia is equally distinctive.

DISTRIBUTION (Text-fig. 154). Philippine Is.

MATERIAL EXAMINED. DEUTSCHES ENTOMOLOGISCHES INSTITUT, BERLIN : allotype ♀, Luzon, Benguet, W. Schultze, Drepanidae genitalia slide no. 473. BRITISH

MUSEUM (NAT. HIST.) : 1 ♂ paratype, Luzon, Benguet, Palali, 2,000 ft., 26.xii.1912, A. E. Wileman ; 1 ♂ Luzon, Benguet, Klondyke, Camp 1, 800 ft., 16.iv.1912, A. E. Wileman ; 1 ♂ paratype, Mindanao, Lanao, Kolambugan, sea level, 25.5.1914, A. E. Wileman.



FIGS. 28–30. *Tridrepana spatulata* sp. n., holotype male. 28. Genitalia. 29. Eighth sternite. 30. Aedeagus.

FIG. 31. *T. spatulata* sp. n., allotype female, ostium and ovipositor lobes.

FIGS. 32 and 33. *T. arikana arikana* (Matsumura), male. 32. Genitalia. 33. Eighth sternite.

Tridrepana arikana arikana (Matsumura) (comb. nov.)

Konjikia arikana Matsumura, 1921, *Thous. Ins. Japan, Addit.* **4** : 949.
Drepana fulvata Snellen, Strand, 1915, *Arch. Naturgesch.* A**12** : 164.

TYPE. Type material presumably deposited at the University of Hokkaido, Japan ; not examined. Described from Formosa.

DESCRIPTION : MALE (Pl. 2, fig. 5). 37·2, 35·0–39·4 mm. (2). As for *lunulata fasciata*, but with following differences. Forewing more strongly falcate. Upperside of fore wing with mid-cell spot, anterodistal spot and discocellular spot all

diffusely edged with O–12–6° ; dark spot posterior to posterodistal spot also diffusely edged with same colour ; subterminal less distinctly marked.

GENITALIA : MALE (Text-figs. 32, 33). Saccus long, digitate. Valve moderately long, slightly arcuate, apically truncate. Anellus weakly sclerotized at base of aedeagus ; each side produced as in *fasciata*, bands fused with each other medially and produced posteriorly as narrow band to anterior margin of gnathus, then sharply reflexed to form strongly sclerotized, two-pronged plate closely apposed to gnathus. Gnathus with long, conical, posteroventrally directed process medially, with small pad at its base covered with minute hair-like spines ; lateral arms broad medially, gradually tapered laterally. Socius small, broad. Uncus bifurcate posteriorly ; each fork tapered, bluntly pointed, apically downcurved, with small lateral tooth and long digitate ventral arm. Aedeagus with inner and outer cornutus ; vesica armoured with short spines. Posterior margin of eighth sternite deeply emarginate medially. Eighth tergite quadrate, very slightly constricted at middle, nearly three times as long as its least transverse width, equal in width to greatest width of eighth sternite ; apodemes equal in length to one third width at anterior margin of tergite.

FEMALE. Not known.

DIAGNOSIS. Distinguished from other species of the species group by the more strongly falcate apex of the fore wing and the very distinctive genitalia.

DISTRIBUTION. Formosa. A male from South China, Ling-ping (in Höne Coll., Zool. Forschungsinstitut, Bonn) probably belongs to this race.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : 1 ♂ Formosa det. H. Inoue, 1954. DEUTSCHES ENTOMOLOGISCHES INSTITUT, BERLIN : 1 ♂ Formosa, Alikang, Sauter, 09.

Tridrepana arikana falcipennis Warren (comb. nov., stat. nov.)

Iridrepana falcipennis Warren, 1922, *Gross-Schmetterl.* **10** : 464.
Tridrepana falcipennis Warren, Gaede, 1931, *Lepid Cat.* **49** : 29.

TYPE. I select the following specimen as lectotype. Lectotype male, Bhutan, Sept. 1889, O. Moller ; Drepanidae genitalia slide no. 146.

DESCRIPTION : MALE. 20·0 mm. (1). Similar to nominate race. (More material needed for accurate description.)

FEMALE. 22·8 mm. (1). As for male.

GENITALIA : MALE. Outer lateral surface of each posterior process of uncus with strongly toothed carina.

FEMALE. (Abdomen missing.)

DISTRIBUTION : Bhutan. One male from South China, Canton (in Zool. Mus., Berlin) appears to be more closely related to this race than to the Formosan race.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : syntype ♀, Bhutan, Sept. 1868, O. Moller.

Species group ***albonotata*** Moore

The combination of two medial spots on the upperside of the fore wing and a

double postmedial (at least posteriorly) on the upperside of the hind wing distinguishes this group of six species from the remaining species groups. In the male genitalia the anellus is well developed (except in *microcrocea*), and the medial part of the gnathus can be divided into a convex strongly spinose or tuberculate anterior part, and a free posterior part forming a sub-anal flap. The spermatheca in the female genitalia is minutely scobinate with a very short duct and laminate signa in *albonotata, mediata* and *aequinota*; in *obscura* and *microcrocea* the spermatheca is radially ornamented and its duct long (as in *fulvata*); in *sera* the spermatheca and duct are similar to *obscura* but the bursa copulatrix is without signa.

The species *albonatata, aequinota* and *mediata* form a single superspecies. *albonatata* is polytypic, breaking up into six subspecies.

Polymorphism is apparently absent, but it is interesting to note that the brown coloration of the upperside of all the specimens of *mediata* examined is paralleled in *olivacea* where both brown and yellow forms occur.

microcrocea possesses a patch of dark thickened (sensory?) scales at the base of the cell on the underside of the fore wing in the male.

Tridrepana albonotata albonotata (Moore)

Drepana albonotata Moore, 1879, *Descr. Lep. Atk.* p. 83.
Drepana albonotata Moore, Cotes and Swinhoe, 1887, *Cat. Moths. India* p. 184.
Drepana albonotata Moore, Hampson, 1893, *Fauna Brit. India Moths* **1** : 340.
Callidrepana albonotata (Moore), Kirby, 1892, *Syn. Cat. Lep. Het.* p. 730.
Drepana albonotata Moore, Hamson, 1897, *J. Bombay Nat. Hist. Soc.* (2) **11** : 288.
Drepana albonotata Moore, Dudgeon, 1899, *J. Bombay nat. Hist. Soc.* (4) **12** : 654.
Tridrepana albonotata (Moore), 1895, *Trans. R. ent. Soc. Lond.* **1895** : 4.
Tridrepana albonotata (Moore), Gaede, 1931. *Lepid. Cat.* **49** : 28.
Callidrepana ochrea Butler, 1886, *Ill. Lep. Brit. Mus.* **6** : 17. (India : Darjeeling.)
Callidrepana ochrea Butler, Cotes and Swinhoe, 1887. *Cat. Moths India* p. 186.
Callidrepana ochrea Butler, Kirby, 1892, *Syn. Cat. Lep. Het.* p. 730.
Tridrepana fulvata (Snellen), Warren, 1903. *Novit. zool.* **10** : 346.
Iridrepana glaciata Warren, 1922, *Gross-Schmetterl.* **10** : 467. (Sikkim). (SYN. NOV.)
Tridrepana glaciata Warren, Gaede, 1931. *Lepid. Cat.* **49** : 29.

TYPE. The British Museum (Nat. Hist.) posseses a male labelled in Moore's own handwriting "*Drepana albonotata* Moore, type". This specimen, however, was collected from Darjeeling, not from the published type locality, "Mount Parisnath, Bihar".

DESCRIPTION : MALE. 31·2, 30·0–33·4 mm. (5). Outer surface of palp O–17–11°; slightly paler inside. Head OOS–9–12°, to O–18–12° above labrum; Antenna OOY–18/19–11°, bipectinate plumose, longest pectination one and one-quarter times as long as greatest diameter of eye.

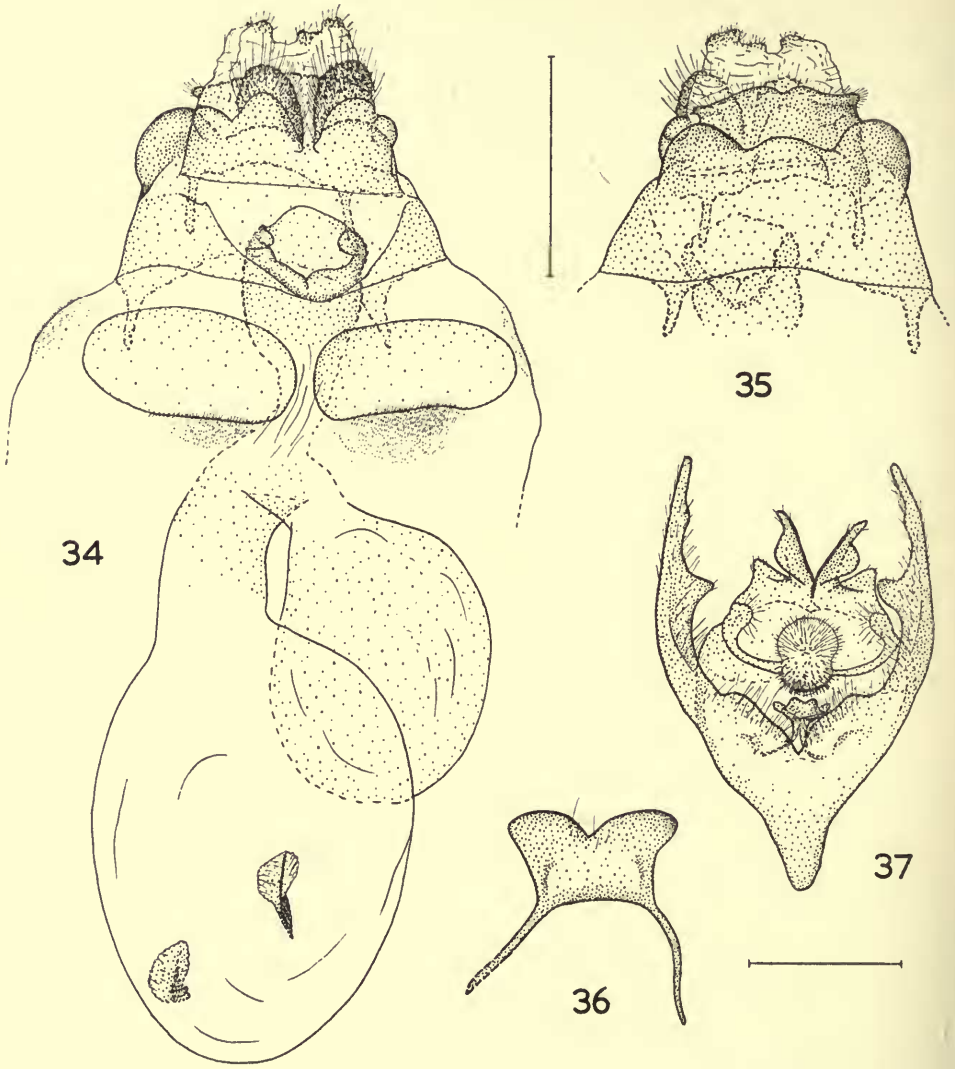
Thorax with narrow whitish anterior border; rest of thorax and abdomen OY–19–12° above, much paler beneath. Fore wing moderately falcate, outer margin straight except at apex; venation as for *fulvata*. Ground colour of upperside of both wings OOY–18/19–11°. Costa of fore wing irrorated with O–4–11°; antemedial as for *fulvata*, O/OOY–14–11°; whitish discocellular spot and similarly

coloured but larger posterodistal spot, both edged with O–9–11° ; postmedial as for *fulvata*, slightly darker than antemedial, diffusely marked near costa, most strongly marked near inner margin ; diffuse medial shade, narrow posteriorly on either side of postmedial, widened anteriorly, extending from middle of costa to apex of wing, O/OOY–14–11° ; subterminal as for *fulvata*, OOS–3–6°, anterior markings edged distally with whitish scales; marginal shade distal to anterior part of subterminal extending posteriorly to between M_3 and Cu_1, O–9–11° ; fringe bordering shade similarly coloured. Whole of wing lustrous, except for narrow area proximal to subterminal and immediately distal to medial shade, area distal to subterminal posterior to M_3, and dark markings of subterminal between R_4 and M_3. Hind wing venation as for *fulvata* but with Sc + R_1 usually anastomosing with Rs distal to cell for short distance. Trace of antemedial, as in *fulvata* ; discocellular spot O/OOY–14–11° ; whitish posterodistal spot broadly edged with colour of latter spot ; postmedial fascia double ; strongly marked, slightly lunulate proximal line corresponding to postmedial of *fulvata*, and faintly marked non-lunulate distal line diverging at either end from proximal line ; subterminal as for *fulvata*. Colour of fasciae as for fore wing. Lustrous areas as for fore wing but whole of area distal to subterminal lustrous. Underside of both wings OY–19–12°, slightly paler posteriorly in fore wing. Fore wing : costa irrorated with O/OOY–14–11° ; trace of anterior part of distal line of postmedial (not corresponding to more proximally situated line on upperside) and anterior part of subterminal. Hind wing unmarked.

FEMALE. 40·8, 39·4–42·8 mm. (3). As for male, but with following differences. Antennae minutely bipectinate, each pectination with apical tuft of cilia, longest pectination just longer than diameter of antennal shaft at that point. Outer margin of fore wing convex, not straight. Upperside of fore wing sometimes with additional minute whitish spot on Cu_1 posterior to posterodistal spot.

GENITALIA : MALE. (Text-figs. 36, 37.) Saccus moderately long, slightly tapered. Valve long, tapered slightly arcuate (small distal bulge absent in some specimens). Anellus only developed lateral and dorsal to base of aedeagus : narrow lateral band on each side extending posteriorly, bands uniting with each other medially to form broad concave structure, scobinate posteriorly and minutely spinose anteriorly ; each lateral edge of latter produced dorsally as flattened lobe. Gnathus with medial, evaginate pad, covered ventrally with hair-like spines, produced posteriorly as free flap ; lateral arms well developed. Socius small, rounded. Uncus with bluntly pointed posterior shoulders ; bifurcate nearly to base medially, each arm slightly downcurved with flattened dorsolateral bulge near base. Aedeagus with inner and outer cornutus ; vesica minutely spinose (as for *angusta*). Eighth sternite as in figure. Eighth tergite quadrate, about one and a half times as long as its least transverse width, just narrower anteriorly than greatest width of eighth sternite ; slightly expanded from anterior margin to two-thirds of its length then tapered to posterior margin, laterally convex, posterior margin about three-quarters width of anterior margin.

FEMALE (Text-figs. 34, 35). Preostial segment with minutely spinose patch posteriorly on either side of medial line and broad concave plate posterior to each patch. Bursa copulatrix large ; pair of signa, each strongly invaginate medially,



FIGS. 34 and 35. *Tridrepana albonotata albonotata* (Moore), female. 34. Ventral view. 35. Dorsal view.
FIGS. 36 and 37. *T. a. albonotata* (Moore), male. 36. Eighth sternite. 37. Genitalia.

laminate. Ductus bursae minutely scobinate for short distance anterior to opening of spermathecal duct, and rimose posterior to opening ; well sclerotized posteriorly. Ostium with lateral and anterior lobes. Spermatheca lightly and minutely scobinate ; duct short. Ostial segment greatly developed dorsally, trilobed posteriorly and produced over base of ovipositor lobes. Ventral ovipositor lobes well sclerotized basally, papillate and hairy posteriorly, each with small lateral

lobe. Dorsal ovipositor lobes united to form broad hood-like structure, slightly produced posterolaterally, weakly emarginate medially.

DIAGNOSIS. Separated from *obscura* by the better defined colour pattern of the upperside and from *microcrocea* by the more extensive medial shade on the fore wing. Genitalia: in the male the shape of the uncus, and in the female the short spermathecal duct and absence of radial ornamantation on the spermatheca, distinguishes the species from those mentioned above.

DISCUSSION. Apart from the "type speciman", there is a further speciman of special interest: this is a female from the Atkinson Collection (in Zool. Mus., Berlin) labelled "Parisnath" (the type locality). The speciman is fortunately conspecific with the former.

The male and female illustrated by Warren (1922) as *albonotata*, belong to *fulvata brevis*.

DISTRIBUTION (Text-fig. 155). Sikkim, N. India and Saigon.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 1 ♂, Darjiling (holotype of *ochrea* Butler); 1 ♂, 1 ♀, Sikkim; 1 ♂, Sikkim, 4–7,000 ft., Möller; 1 ♂, Sikkim, 1894, Chausseurs Indigènes, R. P. Bretaudeau; 1 ♀, Darjeeling, 1891, Mowis. MUSEUM NATIONAL D'HISTOIRE NATURELLE, PARIS: 1 ♀, Saigon, vi.1911. ZOOL. MUSEUM, BERLIN: 1 ♀, Parisnath.

Tridrepana albonotata angusta ssp. n.

TYPE. Holotype male, S.E. Borneo, Samarinda, x.1938, M. E. Walsh; Drepanidae genitalia slide no. 191.

DESCRIPTION: MALE. 31·0, 28·0–32·4 mm. (14). As for nominate race but with following differences. Upperside of fore wing with anterior subterminal markings more distinct; marginal shade distal to anterior part of subterminal, extending posteriorly to Cu_1; outer line of postmedial of hind wing more distinct anteriorly. Underside of fore wing with trace of posterodistal spot; outer line of postmedial well marked between R_4 and M_3; anterior part of subterminal strongly marked between apex and M_2, 0–5–6°; marginal shade and fringe similarly coloured but paler.

GENITALIA: MALE. (Text-figs. 38, 39, 40.) As for nominate race but with following differences. Larger of distal lobes on inner surface of valve sharply pointed. Posterior concave part of anellus larger and deeper, cup-like. Gnathus differently shaped medially. Posterior shoulders of uncus only slightly produced; medial arms without dorsolateral bulge. Eighth sternite differently shaped posteriorly.

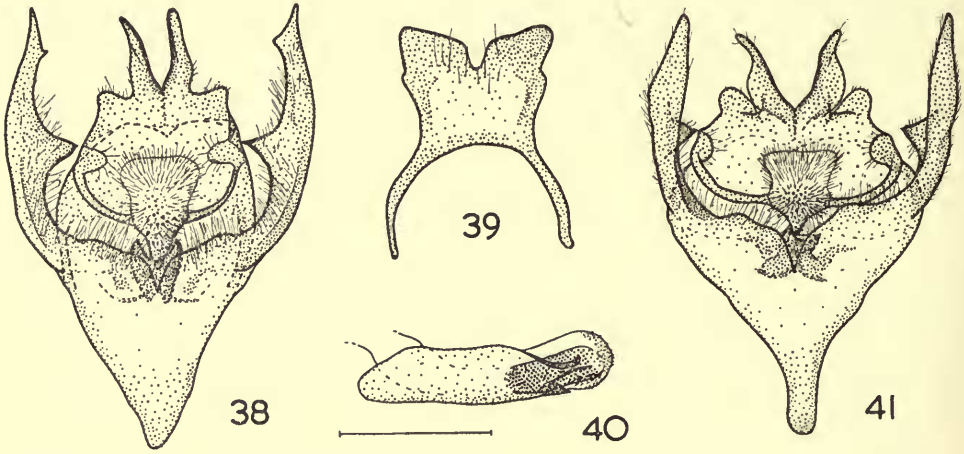
FEMALE. Not known.

DIAGNOSIS. Distinguished from the other races of the species chiefly by the shape of the uncus in the male genitalia.

DISTRIBUTION (Text-fig. 155). Borneo, Sumatra and Malaya.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 3 ♂ paratypes, with same data as holotype; 1 ♂, B. N. Borneo, Kretam, 6.vii.1950, J. D. H. Hedley; 1 ♂ paratype, Sarawak, Bidi, 1907–1908, C. J. Brooks; 1 ♂ paratype, S. W. Sumatra,

Barisan Range, Western slopes, 2,500 ft., Oct.–Nov. 1931, C., F., and J. Pratt; 1 ♂, Sumatra, Dempo, 4,000 ft., vii.1923, C. J. Brooks; 1 ♂ paratype, Gunong Ijau, 2–3000 ft., iii.'98, Butler; 1 ♂ paratype, Penang, ii.'97, Curtis; 4 ♂ paratypes, 1 ♂, Malay Penin., Selangor, Bukit Kutu, 3,300–3,500 ft., April 1926, Sept. 1932,



FIGS. 38–40. *Tridrepana albonotata angusta* ssp. n., holotype male. 38. Genitalia. 39. Eighth sternite. 40. Aedeagus.

FIG. 41. *T. a. rotunda* ssp. n., holotype male, genitalia.

H. M. Pendlebury; 5 ♂, Kuala Lumpur, Jan. 17, 22, Nov. 21, Oct, 25, 1921, 1931. LANDBOUWHOGESCHOOL TE WAGENINGEN: 1 ♂ paratype, O. Borneo, 13 Dec. 1936, Qu. de Quarles. NATURHISTORISCHES MUSEUM, VIENNA: 4 ♂ paratypes, Malacca, Tras Pahang, 1912, Popp.

Tridrepana albonotata rotunda ssp. n.

TYPE. Holotype male, W. Bali, Mondoktoempang, 2,500 ft., October 1934, J. P. A. Kalis; Drepanidae genitalia slide no. 180.

DESCRIPTION: MALE. 34·8, 32·4–36·0 mm. (5). As for nominate race but with following differences. Anterior part of subterminal on upperside of fore wing more strongly marked, as in *angusta*. Posterodistal spot on hind wing may extend as minute streak along base of M_2; Outer line of postmedial well developed as in *angusta*.

GENITALIA (Text-fig. 41). As for nominate race but with following differences. Lobe on inner surface near half length of valve, larger and dilated, not laterally flattened, sometimes with few teeth at apex. Anellus similar to *angustu* but with ventral margin of cup-like structure flat medially, not evenly convex. Medial part of gnathus differently shaped, similar to *angusta* but more sharply tapered anteriorly. Posterior shoulders of uncus evenly rounded, not bluntly pointed. Inner cornutus of aedeagus smaller (as for *celebesensis*). Eighth sternite as for *angusta*.

FEMALE. Not known.

DIAGNOSIS. The shape of the uncus shoulders and the gnathus distinguish this from the other races of the species.

DISTRIBUTION (Text-fig. 155). Bali. Two females from W. Java (in Rijksmuseum van Nat. Hist., Leiden), and two Females from E. Java (in Brit. Mus. (Nat. Hist.)) probably belong to this race.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 3 ♂ paratypes, with same data as type; 1 ♂, E. Bali, Git-Git, 5,000 ft., April 1926, J. P. A. Kalis.

Tridrepana albonotata celebesensis ssp. n.

TYPE. Holotype male, W. Celebes, Paloe, G. Tompoe, 2,700 ft., Jan. 1937, J. P. A. Kalis; Drepanidae genitalia slide no. 361.

DESCRIPTION: MALE (Pl. 2, fig. 6). 33·4, 30·0–36·2 mm. (29). As for nominate race but with following differences. Anterior part of subterminal on upperside of fore wing as for *angusta*, but with associated marginal shade not extending beyond M_3 posteriorly. Posterodistal spot on hind wing may extend a short distance along M_3 and for a shorter distance along M_2; usually with additional white streak along base of Cu_1 at end of cell; distal line of postmedial usually only well marked posteriorly. Underside as for *angusta*.

FEMALE. (Pl. 2, fig. 7). 43·6 mm. (1). As for male but with following differences. Antennae minutely bipectinate as in nominate race. Outer margin of fore wing slightly convex; distal line of postmedial on upperside well marked anteriorly; subterminal of both wings with more lustrous scales.

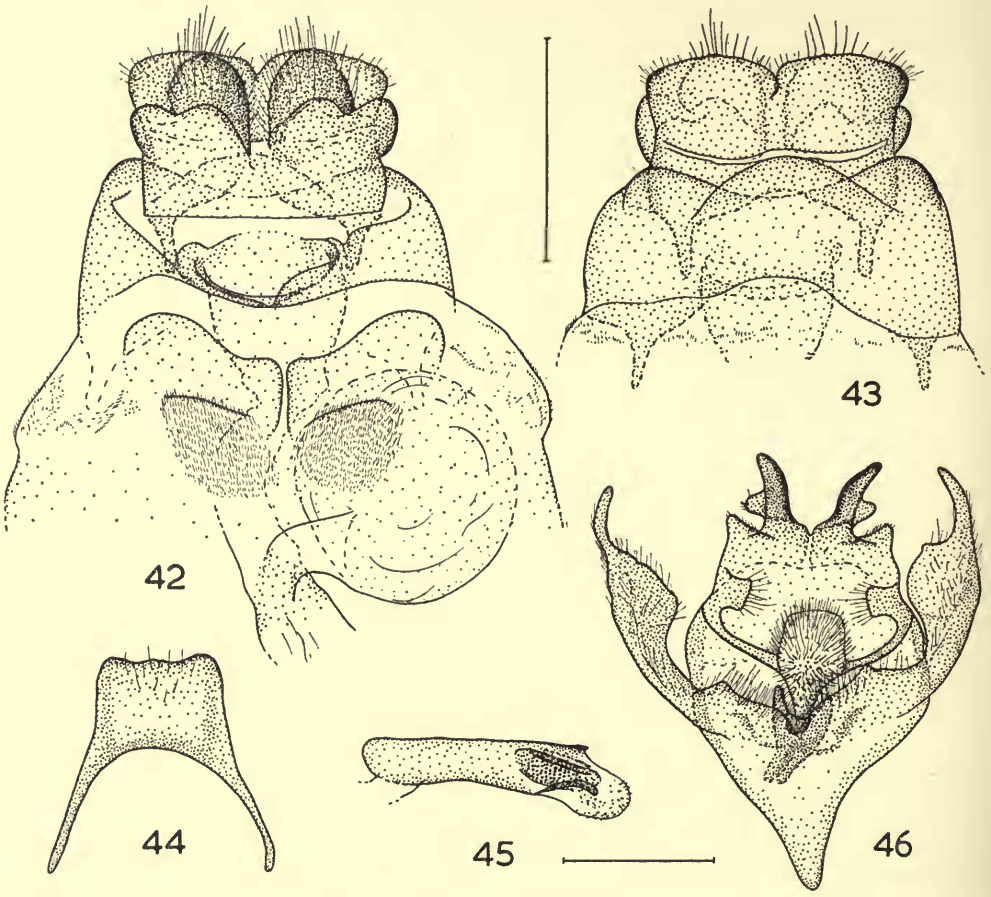
GENITALIA: MALE (Text-figs. 44, 45, 46). As for nominate race but with following differences. Large, dilated, posterodorsally truncate lobe on inner surface of valve near apex. Cup-like part of anellus similar to *angusta* but slightly larger; anterodorsal lobes more conspicuous. Gnathus similar to *angusta* but posterior flap narrower posteriorly. Socius truncate. Each medial process of uncus with conspicuous dorsolateral lobe near base. Aedeagus as for *rotunda* (Text-fig. 45). Eighth sternite with only trace of posteromedial emargination. Eighth tergite about one and a quarter times as long as its least transverse width, slightly less wide posteriorly than anteriorly.

FEMALE (Text-figs. 42, 43). As for nominate race but with following differences. Preostial plates and spinose patches differently shaped. Ostial lobes as in figure. Medial lobe of dorsoposterior margin of ostial segment broader than lateral lobe. Dorsal ovipositor lobes larger, differently shaped.

DIAGNOSIS. Distinguished from the other races of the species by the shape of the eighth sternite, valve and uncus in the male, and by the larger dorsal ovipositor lobes in the female.

DISTRIBUTION (Text-fig. 155). Celebes.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): allotype ♀, W. Celebes, Paloe, G. Tompoe, 2,700 ft., Feb. 1937, J. P. A. Kalis, Drepanidae genitalia slide no. 352; 2 ♂ paratypes, with same data as holotype; 4 ♂ paratypes, 1 ♂, Paloe, Loda, 4,000 ft., May 1937, J. P. A. Kalis; 2 ♂ paratypes, Paloe, Lindoe, 3,700 ft.,



FIGS. 42 and 43. *Tridrepana albonotata celebesensis* ssp. n., allotype female. 42. Ventral view. 43. Dorsal view.

FIGS. 44–46. *T. a. celbesensis* ssp. n., holotype male. 44. Eighth sternite. 45. Aedeagus. 46. Genitalia.

April 1937, J. P. A. Kalis; 7 ♂ paratypes, 1 ♂, Paloe, Koelawi, 3,100 ft., March 1937, J. P. A. Kalis; 12 ♂ paratypes, Paloe, Sidaonta, 4,500 ft., June 1937, J. P. A. Kalis.

Tridrepana albonotata ferrea (Hampson) (stat. nov.)

Agnidra ferrea Hampson, 1892, *Ill. Lep. Het. Brit. Mus.* **9** : 69.
Drepana ferrea (Hampson), Hampson, 1893, *Fauna Brit. India Moths* **1** : 341.
Iridrepana ferrea (Hampson), Warren, 1922, *Gross-Schmetterl.* **10** : 466 (fig.)
Tridrepana ferrea (Hampson), Gaede, 1931, *Lepid. Cat.* **49** : 29.

TYPE. Holotype male, Ceylon, Pundaloya; Drepanidae genitalia slide no. 360.

DESCRIPTION: MALE. 31·4, 30·8–36·4 mm. (4). As for nominate race but with following differences. Fore wing more strongly falcate. Upperside of the fore wing

with more strongly marked medial shade, OOS–9–6°, extending nearly to antemedial proximally; rest of wing OOY–17–11°; anterior part of subterminal more strongly marked as in *angusta*. Hind wing with similar medial shade. Underside of fore wing darker than in nominate race, OOY–16–10°; discocellular spot strongly marked. Ground colour of hind wing also darker.

FEMALE. 40·6, 39·4–41·6 mm. (3). As for male but with following differences. Antennae minutely bipectinate. Ground colour of upperside of both wings paler (but specimens worn), medial shade O–4–7° and rest of wing O–17–11°; subterminal with more lustrous scales.

GENITALIA. As for nominate race but with following differences:

MALE. (Text-figs. 48, 49). Valve shorter, greatly dilated apically and obliquely truncate posterodorsally. Cup-like part of anellus more strongly produced ventrolaterally. Medial part of gnathus differently shaped. Posterior shoulders of uncus much longer, downcurved; medial processes diverge more strongly from each other posteriorly. Posterior margin of eighth sternite with broad, deep, medial emargination.

FEMALE. (Text-fig. 47). Ostial margin not conspicuously lipped. Lateral lobes of posterior margin of ostial segment larger; medial lobe poorly developed. Dorsal hood-like structure without posteromedial division into ovipositor lobes.

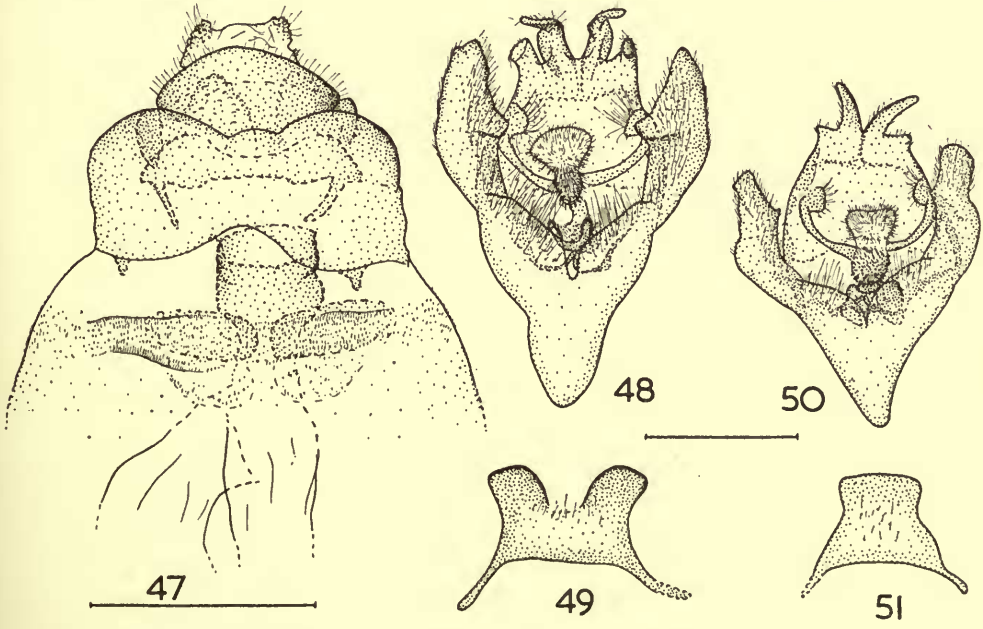


FIG. 47. *Tridrepana albonotata ferrea* (Hampson), female, dorsal view of genitalia.

FIGS. 48 and 49. *T. a. ferrea* (Hampson), male. 48. Genitalia. 49. Eighth sternite.

FIGS. 50 and 51. *T. a. pervasata* Warren, holotype male. 50, Genitalia. 51. Eighth sternite.

DIAGNOSIS. Separated from the other races of the species by the darker coloration and the presence of a medial shade in both fore and hind wing.

GENITALIA : the shape of the eighth sternite and the uncus in the male, and the greatly enlarged dorsolateral lobes of the posterior margin of the ostial segment in the female, distinguish this from the other races.

DISTRIBUTION (Text-fig. 155). Ceylon.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : 4 ♂, 1 ♀, Ceylon, Maskeliya, February, April, June, J. P.; 1 ♀, Ceylon.

Tridrepana albonotata pervasata Warren (comb. nov.)

Iridrepana septumpunctata pervasata Warren, 1922, *Gross-Schmetterl.* **10** : 465.
Tridrepana septumpunctata var. *pervasata* Warren, Gaede, 1931, *Lepid Cat.* **49** : 30.

TYPE. Holotype male, Travancore, Place ; Drepanidae genitalia slide no. 186.

DESCRIPTION : MALE. 30·0 mm. (1). As for *ferrea* but with ground colours of wings slightly less dark, and fore wing less strongly falcate.

GENITALIA : MALE. (Text-figs. 50, 51). As for nominate race but with following differences. Valve similar to *ferrea* but less strongly dilated apically. Cup-like part of anellus with ventral corners weakly produced ; dorsal lobes also poorly developed. Medial part of gnathus differently shaped. Socius apically truncate. Uncus as for *angusta* but with medial process shorter. Eighth sternite truncate posteriorly, without medial emargination. Eighth tergite only slightly wider anteriorly than posteriorly.

FEMALE. Not known.

DIAGNOSIS. The shape of the eighth sternite readily distinguishes this from the nominate race.

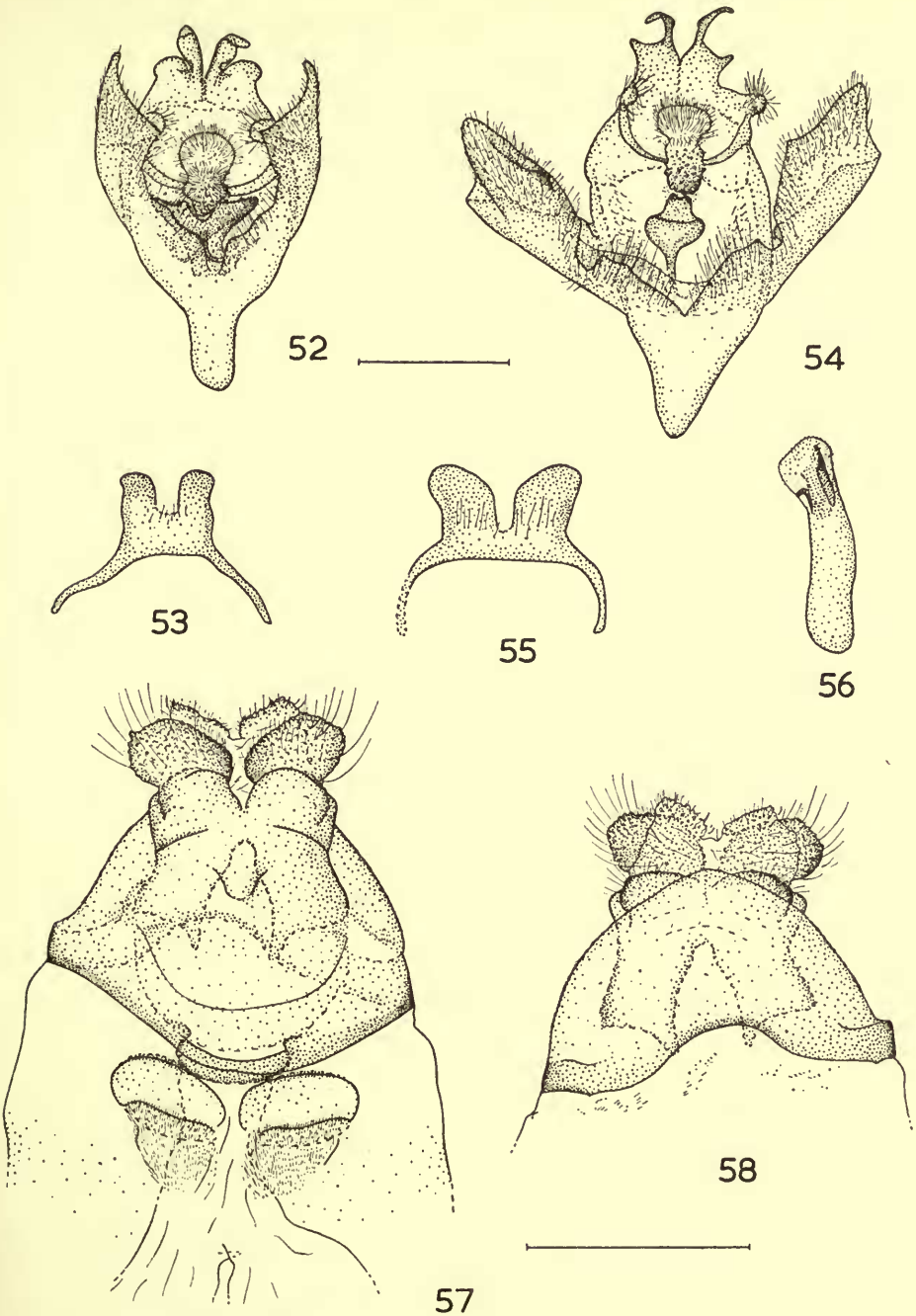
DISTRIBUTION (Text-fig. 155). S. India.

No material apart from the holotype available for study.

Tridrepana aequinota sp. n.

TYPE. Holotype male, Central Buru, Kako Tagalago, 2,700 ft., May '22, C., F., and J. Pratt ; Drepanidae genitalia slide no. 425.

DESCRIPTION : MALE. (Pl. 2, fig. 8). 33·1, 31·8–34·6 mm. (3). As for *albonotata angusta* but with following differences. Upperside of fore wing with base of costa irrorated with O–13–11° ; antemedial and postmedial fasciae darker, OOS–3–8° ; discocellular spot darker and larger, OOS–3–8°, without white centre ; posterodistal spot edged with OOS–3–8° ; anterior markings of subterminal not conspicuously enlarged, marking between M_1 and M_2 largest ; narrow marginal shade from apex to M_3, OOS–5–12° ; fringe bordering shade OOS–3–8° : hind wing with distal line of postmedial indistinct, not developed anteriorly ; posterodistal spot edged with darker scales as in fore wing. Underside of fore wing with well marked discocellular spot ; trace of subterminal anteriorly : posterodistal spot on hind wing shows through from upperside.



FIGS. 52 and 53. *Tridrepana aequinota* sp. n., holotype male. 52. Genitalia. 53. Eighth sternite.

FIGS. 54–56. *T. mediata* Warren, male. 54. Genitalia. 55. Eighth sternite. 56. Aedeagus.

FIGS. 57 and 58. *T. mediata* Warren, female. 57. Ventral view. 58. Dorsal view.

GENITALIA : MALE (Text-figs. 52, 53). Saccus moderately long, digitate. Valve arcuate, apically pointed : greatly dilated just proximal to apex, obliquely truncate posterodorsally (similar to *albo. celebesensis*). Anellus similar to *albonotata* but much larger, posteroventral margin of cup-like structure strongly emarginate. Gnathus similar to *albonotata*. Socius small, rounded. Uncus as for *albo. rotunda* but much less broad. Aedeagus as for *albo. albo*. Eighth sternite deeply emarginate posteriorly (similar to *albo. ferrea*). Eighth tergite as for *albo. albo*.

FEMALE. Not known.

DIAGNOSIS. Distinguished from *albonotata* by the more uniformly marked subterminal on the upperside of the fore wing.

DISCUSSION. As noted previously, this species belongs to the superspecies *albonotata*.

DISTRIBUTION (Text-fig. 155). Buru.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : 2 ♂ paratypes, with same data as holotype.

Tridrepana mediata Warren

Iridrepana mediata Warren, 1922, *Gross-Schmetterl.* **10** : 467 (fig.).
Tridrepana mediata Warren, Gaede, 1931, *Lepid Cat.* **49** : 29.

TYPE. Holotype female, Dutch New Guinea, up to 3,500 ft., nr. Oetakwa R., x.xii.1910, Meek ; Drepanidae genitalia slide no. 359.

DESCRIPTION : MALE. 32·0, 29·4–33·4 mm. (5). Palps, and head between and posterior to antennae O–15–12° ; head anterior to antennae OOS–8–11°, to OOY–16–9° above labrum ; antennae OOY–16–9°, irrorated proximally with OOS–8–11°, shape as for *albonotata*.

Thorax with narrow whitish anterior border ; rest of thorax and abdomen OOS–9–5° above, OOY–18–10° below. Wing shape and pattern as for *albonotata angusta*. Ground colour of upperside of fore and hind wing as for thorax ; medial shade and outer margin shade of fore wing and fasciae of both wings slightly darker than ground colour. Ground colour of underside of both wings as for thorax ; anterior part of subterminal very weakly marked, sometimes only represented by single spot between R_5 and M_1.

FEMALE. 38·2, 34·2–42·2 mm. (12). As for male but with following differences. Antennae minutely bipectinate, as for *albonotata*. Outer margin of fore wing slightly convex, not straight. Ground colour of both wings usually paler, O–14–7°, so that all markings are more prominent. Underside also paler, OOY–17–10° ; sometimes without trace of subterminal.

GENITALIA : MALE (Text-figs. 54, 55, 56). Saccus moderately long, slightly tapered. Valve long, broad, laterally flattened ; inner surface concave (similar to *examplata*) ; ventral margin dilated apicad, irregularly carinate. Anellus forms narrow band on each side of base of aedeagus ; these unite posteriorly, dorsal to aedeagus, forming anteroposteriorly flattened structure. Gnathus similar to *albonotata*, medial part tuberculate anteriorly. Socius short. Uncus with sharply

pointed posterior shoulders; medially bifurcate, each arm downcurved, carinate and slightly dilated ventrally from base to two-thirds of its length. Aedeagus with inner and outer cornutus, inner only half length of outer; vesica minutely spinose. Eighth sternite deeply emarginate posteriorly. Eighth tergite just wider transversly at its base than least width of eighth sternite, slightly tapered posteriorly, about twice as long as its greatest width; apodemes from one-quarter to one-third width of anterior margin of tergite.

FEMALE. (Text-figs. 57, 58). Posterior margin of preostial sternite with minutely spinose patch and sclerotized plate on either side of medial line. Bursa copulatrix, spermatheca and corresponding ducts as for *albonotata*. Ostium without operculum. Ostial segment heavily sclerotized anteriorly; produced dorsally over base of ovipositor lobes. Anterior apophyses minute or absent. Posterior apophyses very strongly developed. Ventral ovipositor lobes large. Dorsal ovipositor lobes small.

DIAGNOSIS. The dark brown colour of the male and the paler brown of the female readily distinguish the species from *albonotata*.

DISCUSSION. As noted previously, this species is placed in the superspecies *albonotata*.

DISTRIBUTION (Text-fig. 155). Distributed throughout New Guinea, extending to Goodenough Is. and Sudest Is. in the south-west.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 1 ♂, Dutch New Guinea, Central Artak Mts., Ninay Valley, 3,500 ft., Feb. and March '09 (labelled " type ♂ " by Warren, but not mentioned in original description); 1 ♀, Fak-Fak, 1,700 ft., Dec. '07, Pratt; 2 ♂, B. New Guinea, Dinawa, 4,000 ft. Sept. 1902, Coll. A. E. Pratt; 3 ♀, Hydrographer Mts., 2,500 ft., Jan., Feb., March, 1918, Eichhorn Bros.; 1 ♀, Collingwood Bay, Haidana, April 1907, A. S. Meek; 1 ♀, Goodeough Isl., 2,500–4,000 ft., May 1913, (syntype ♀ of *semirufa* ab. *olivacea* Warren); 1 ♂, Goodenough Isl., 2,500–4,000 ft., A. S. Meek; 1 ♂, 5 ♀, Sudest Isl., Mt. Riu, 2,000 ft., March, April 1916, Eichhorn Bros.

Tridrepana obscura sp. n.

TYPE. Holotype male (E. Java) Tennger, Singolangoe, 5,000 ft., May 1934, F. P. A. Kalis; Drepanidae genitalia slide no. 179.

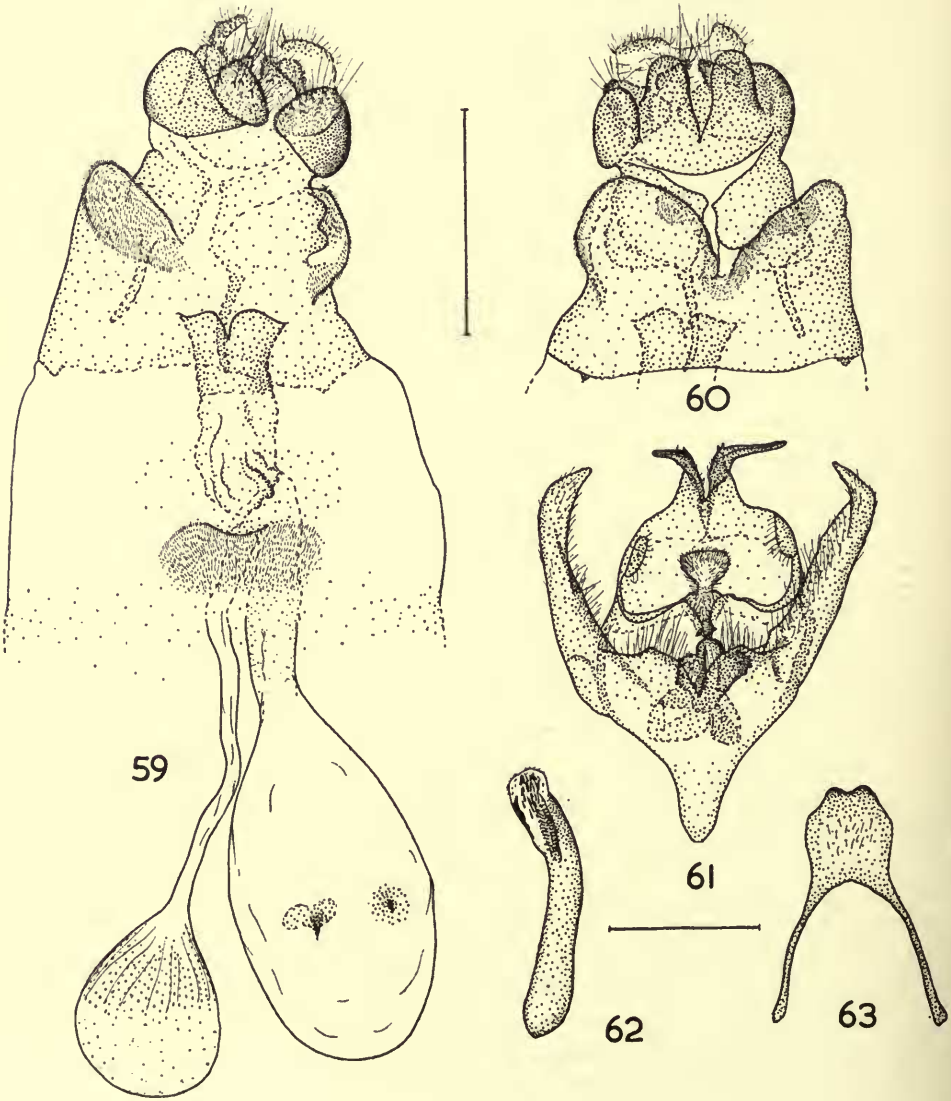
DESCRIPTION: MALE (Pl. 2, fig. 9). 29·8, 26·2–33·7 mm. (17). Head and thorax as for *albonotata angusta*.

Wings as for *albonotata angusta* but with following differences. Fore wing more strongly falcate apically (as in *albo. ferrea*). Discocellular and posterodistal spot of upperside smaller, former sometimes without white centre; medial shade more strongly marked distal to postmedial; markings of anterior part of subterminal less greatly enlarged and only faintly edged distally with whitish scales. Hind wing with posterodistal spot and postmedial diffusely marked. Both wings less distinctly lustrous. Underside with anterior part of subterminal faintly marked, sometimes represented by a single spot between M_1 and M_2.

FEMALE. 35·0, 34·0–36·4 mm. (5). As for male but with following differences,

Longest antennal pectination equal in length to one-half greatest diameter of eye (in contrast with *albonotata* female). Outer margin of fore wing slightly convex, not straight.

In five males and one female the ground colour of the upperside of both wings and the colour of the thorax and the abdomen is pale brown, OOS–16–7°.



FIGS. 59 and 60. *Tridrepana obscura* sp. n., allotype female. 59. Ventral view. 60. Dorsal view.

FIGS. 61–63. *T. obscura* sp. n., holotype male. 61. Genitalia. 62. Aedeagus. 63. Eighth sternite.

GENITALIA. Male. (Text-figs. 61, 62, 63). Saccus moderately long, tapered. Valve long, pointed; strong longitudinal carina on inner surface from base to near apex; apex falcate and hood-like. Anellus forming almost complete ring round base of aedeagus, divided ventromedially; produced dorsally on either side of medial line as broad band which curves anteriorly then posteriorly fusing with opposite band to form large, heavily sclerotized structure, evaginate laterally and posteriorly, invaginate medially; closely apposed to gnathus. Gnathus similar to *albonotata*; anterior part of medial structure sagittate, evaginate only at base; posterior flap small; lateral arms slender. Socius very short and broad. Uncus bifurcate medially into pair of tapered, divergent, downcurved arms; each arm with baso-ventral ridge and few short spines basodorsally. Aedeagus arcuate, most strongly so near apex; with inner and outer cornutus; vesica spinose. Eighth sternite longer than its greatest transverse width, weakly bilobed posteriorly. Length of anterior margin of eighth tergite one and a half times greatest width of eighth sternite; sharply constricted just before posterior margin which is less than one-third length of anterior margin; apodemes about one-third length of anterior margin.

FEMALE (Text-figs. 59, 60). Minutely spinose patch with rounded sclerotized plate immediately posterior to it placed medially at posterior margin of preostial sternite. Signa of bursa copulatrix similar to *albonotata*; ductus bursae minutely scobinate anteriorly, more lightly scobinate and slightly rimose posterior to junction with spermathecal duct, heavily sclerotized towards ostium. Spermatheca with radial ornamentation. Ostium with broad bilobed anterior lip forming partial operculum. Ostial segment well developed; posterior margin emarginate dorsally. Anterior apophyses very short. Intersegmental membrane (?) between ostial and preostial segment evaginate laterally and dorsally, covered with minute hair-like spines. Posterior apophyses long. Ventral ovipositor lobes strongly sclerotized and greatly dilated basally, papillate and hairy apically. Dorsal ovipositor lobes represented by pair of heavily sclerotized digitate lobes, and pair of hairy papillate lobes immediately ventral to latter.

DIAGNOSIS. The species can usually be distinguished from *albonotata* by the smaller cell spots, differently marked medial shade and less distinctly marked subterminal on the upperside of the fore wing in both sexes. Easily distinguished in the female by the more strongly pectinate antennae.

GENITALIA: MALE. The shape of the anellus and uncus separate the species from the rest of the species group.

FEMALE. Distinguished from *microcrocea* by the shape of the signa and the ostial segment; very different from *albonotata*.

DISCUSSION. The species apparently occurs in two forms, a yellow form and a pale brown form. (see above).

DISTRIBUTION. Java, Bali. 1 ♂ (in Brit. Mus.) from S.E. Sumatra, Liwa, is probably subspecifically different from the material mentioned below.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): allotype ♂, E. Java, Djoenngo Ardjoeno, 4,500 ft., May 1934, J. P. A. Kalis, Drepanidae genitalia slide no. 366; 1 ♀, 7 ♂ paratypes, from type locality, May, June 1934, J. P. A. Kalis; 1 ♀, 4 ♂ paratypes, 3 ♂, Djoenngo Ardjoeno, 4,500 ft., May, June, 1934, J. P. A.

Kalis; 1 ♂ paratype, Kletak Tengger, 6,000 ft., June 1934, J. P. A. Kalis; 2 ♀ paratypes, Nongkodjadjar, 4,000 ft., January, April 1934, A. M. R. Wegner; 2 ♂ paratypes, W. Bali, Mondoktoempang, 2,500 ft., October 1934, J. P. A. Kalis.

Tridrepana microcrocea Gaede

Tridrepana microcrocea Gaede, 1933, *Bull. Mus. Hist. nat. Belg.* **9**, No. 43 : 2.

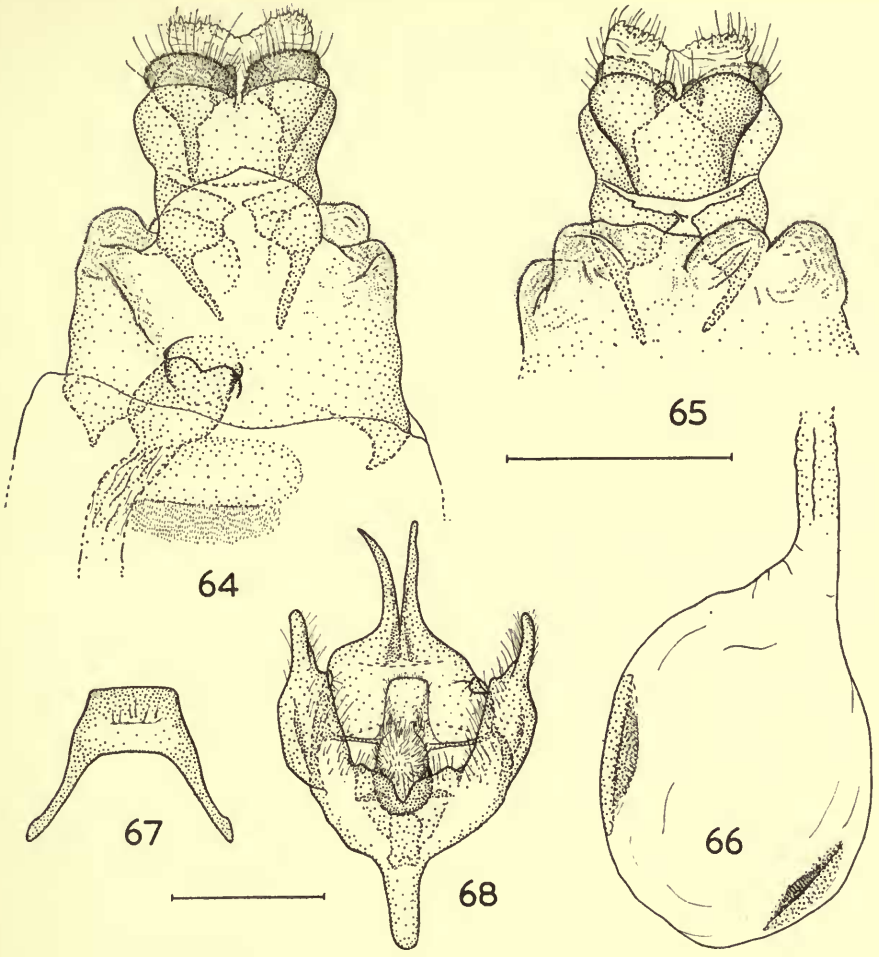
TYPE. Holotype male, Malacca, Tengah-Gebirge; Drepanidae genitalia slide no. 221 (in Zoologisches Museum der Humboldt Universität, Berlin).

DESCRIPTION : MALE. 27·4, 26·0–29·2 mm. (5). As for *albonotata angusta* but with following differences. R_1 from one-half areole, or more distally. Upperside of thorax and abdomen and ground colour of upperside of both wings OY–18/19–12°; fore wing with distance between posterodistal spot and postmedial (measured along M_3) equal to width of medial shade distal to postmedial at that point; medial shade not developed proximally except for small area distal to end of cell and near costa : posterodistal spot of hind wing more strongly marked, elongate, its longitudina- axis parallel to inner margin of wing; latter spot sometimes touching disco- cellular spot proximally. Base of cell on underside with small patch of long, curved, dark scales (possibly sensory).

FEMALE (Pl. 2, fig. 10). 34·1, 33·4–34·6 mm., (3). As for male but with following differences. Longest antennal pectination just shorter than greatest diameter of eye (ct. *albonotata*). Outer margin slightly convex, not straight. Upperside of both wings lighter, OY–19–12°, and more lustrous; markings also lighter in colour. Trace of marginal shade on underside of fore wing; sensory (?) patch absent.

GENITALIA : MALE (Text-figs. 67, 68). Saccus long, digitate. Valve moderately long, very slightly arcuate, digitate distally. Anellus developed lateral to base of aedeagus as small lobe; dorsal wall of each lobe produced anterodorsally as flattened plate, fusing with plate from other side medially; resultant medial plate produced anteriorly for short distance then bilobed and sharply reflexed posteriorly. Medial part of gnathus similar in structure to *albonotata*; free posterior part lightly covered with minute, hair-like spines; anterior evagination with long, hair-like spines at base. Socius minute. Uncus bifurcate posteriorly into pair of long, tapered, proximoventrally carinate processes. Aedeagus with outer and inner cornutus, outer cornutus very slender; vesica armoured with short spines. Eighth sternite truncate posteriorly. Eighth tergite twice as wide transversely at its base as least width of eighth sternite; tapered posteriorly, most strongly near posterior margin; length of posterior margin one-quarter to one-third length of anterior margin.

FEMALE (Text-figs. 64, 65, 66) Posteromedial margin of preostial segment with minutely spinose, elongate patch; rounded sclerotised plate immediately posterior to latter. Bursa copulatrix, spermatheca, and respective ducts as for *obscura* but with more elongate signa and posterior part of ductus bursae narrower. Ostium with bilobed anterior lip forming partial operculum. Ostial segment well developed. Intersegmental membrane (?) between ostial and preostial segment variously folded laterally and dorsally, covered with minute hair-like spines. Ventral ovipositor lobes well developed, papillate and hairy distally. Dorsal lobes united medially



FIGS. 64–66. *Tridrepana microcrocea* Gaede, female. 64. Ventral view of ovipositor lobes and ostium. 65. Dorsal view of ovipositor lobes. 66. Bursa copulatrix.

FIGS. 67 and 68. *T. microcrocea* Gaede, holotype male. 67. Eighth sternite. 68. Genitalia.

forming heavily sclerotized, posteriorly bilobed, hood-like structure ; produced into pair of small hairy lobes ventrally.

DIAGNOSIS. Distinguished from the rest of the species group by the dark patch of scales at the base of the cell on the underside of the fore wing in the male, and by the elongate posterodistal cell spot on the upperside of the hind wing in both sexes.

DISCUSSION. A similarly placed sensory (?) patch of scales occurs on the fore wing of the males of the next species group.

DISTRIBUTION. Malaya, Sumatra, Borneo.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : 7 ♂, Malaya, Kuala Lumpur, Apr. 13.1926, Nov. 30, 1929, Jan.18, Feb.7, 17 1931, Jan.10, Dec.3 1932,

H. M. Pendlebury; 1 ♀, Perak, Taiping, E. Seimund; 1 ♀, Selangor-Pahang, Gintin Sempak, 29.v.1927; 2 ♂, 2 ♀, Singapore, H. N. Ridley; 1 ♂, S.E. Borneo, Samarinda, x.1938, M. E. Walsh; 1 ♀, B. N. Borneo, Kretam, 22.vi.1950, 8 p.m., J. D. H. Hedley. LANDBOUWHOGESCHOOL TE WAGENINGEN: 1 ♂, O. Borneo, 17 Nov. 1936, Qu. de Quarles; 1 ♂, Sum. O.K., Dolok Ilir, 26 May 1936.

Tridrepana sera (Warren)

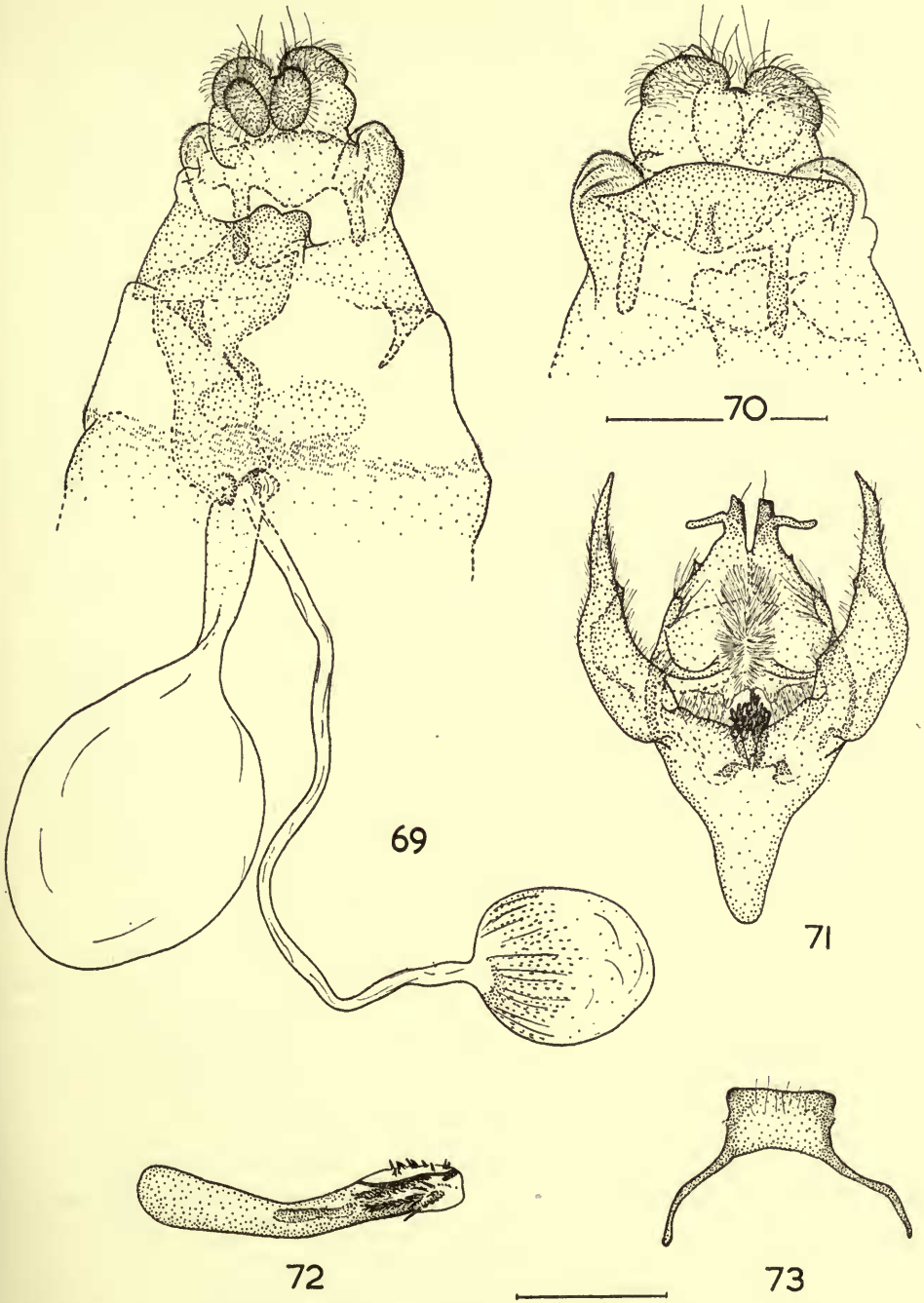
Drepana sera Warren, 1896, *Novit. zool.* **3**: 272.
Iridrepana sera (Warren), Warren, 1922, *Gross-Schmetterl.* **10**: 465.
Tridrepana sera (Warren), Gaede, 1931, *Lepid. Cat.* **49**: 30.
Iridrepana sera ab. *suffusa* (Warren), 1922, *Gross-Schmetterl.* **10**: 465 (SYN. NOV.).
Tridrepana sera ab. *suffusa* (Warren), Gaede, 1931, *Lepid. Cat.* **49**: 30.

TYPE. Holotype female, Fergusson I., xi.95, A. S. Meek; Drepanidae genitalia slide no. 188.

DESCRIPTION: MALE (Pl. 2, fig. 11). 29·5, 27·0–31·6 mm. (6). As for *albonotata angusta* but with following differences. Outer margin of fore wing slightly convex; R_1 usually from one-half areole. Upperside of fore wing with antemedial uninterrupted at veins; cell spots smaller; postmedial from two-fifths costa, lunulate from M_1 to M_2, nearly straight from M_2 to one-half inner margin; medial shade very faintly developed proximal to anterior part of postmedial, well marked distal to postmedial especially along its distal border; subterminal with single enlarged spot between M_1 and M_2, faintly edged with whitish scales. Hind wing with anterior part of antemedial more strongly marked; posterodistal spot smaller, trace of white centre; proximal line of postmedial from one-half inner margin, passing closer to end of cell than in *albonotata*; markings of distal postmedial line large, diffuse, each marking placed mid-way between corresponding markings of subterminal and proximal postmedial line, or closer to subterminal. Both wings less distinctly lustrous. Underside of fore wing with trace of marginal shade immediately inside outer margin of wing; subterminal represented by single spot between M_1 and M_2.

FEMALE. 35·0, 33·6–36·8 mm. (7). As for male but with following differences. Longest antennal pectination just over half greatest diameter of eye. Outer margin of fore wing more strongly convex; upperside of both wings slightly lighter in colour and more distinctly lustrous.

GENITALIA. MALE. (Text-figs. 71, 72, 73). Saccus moderately long, tapered. Valve long, tapered, slightly arcuate; proximal two-thirds hood-like. Anellus forming almost complete ring round base of aedeagus; each side produced posteriorly dorsal to aedeagus, uniting with opposite side to form strongly evaginate structure covered with long, stout, curved spines; continued posteriorly as narrow medial band, closely apposed to similar band from anterior margin of gnathus. Medial part of gnathus covered with long, hair-like spines; lateral arms well developed; membrane immediately anterior to anterior border of gnathus folded, forming small lobe on either side of medial line. Socius small. Uncus bifurcate medially, each resultant process with single apical hair and digitate ventral arm;



FIGS. 69 and 70. *Tridrepana sera* (Warren), female. 69. Ventral view of genitalia. 70. Dorsal view.

FIGS. 71–73. *T. sera* (Warren), holotype male. 71. Genitalia. 72. Aedeagus. 73. Eighth sternite.

carinate laterally, with one or two pointed teeth near middle of each lateral margin. Aedeagus geniculate just distal to mid-point; inner cornutus weakly developed, outer cornutus long; vesica armoured with spines of various lengths. Eighth sternite truncate posteriorly. Eighth tergite about two and a half times as long as length of anterior margin, equal in width anteriorly to length of posterior margin of eighth sternite; evenly tapered from anterior margin to near posterior margin; posterior margin slightly concave medially, equal in length to less than half length of anterior margin.

FEMALE. (Text-figs. 69, 70). Posteromedial margin of preostial sternite with rectangular, minutely spinose patch and rounded sclerotized plate immediately posterior to latter. Bursa copulatrix without signa; ductus bursae scobinate, flattened and strongly sclerotized posterior to junction with spermathecal duct, bent to left just anterior to ostium. Spermatheca with radial ornamentation. Ostium with bilobed anterior lip forming operculum. Ostial segment well developed, produced over base of ovipositor lobes dorsally. Intersegmental membrane (?) between ostial and preostial segment folded laterally, covered with small hair-like spines. Ventral ovipositor lobes globular, densely hairy; dorsal lobes fused basally, papillate and hairy posteriorly.

DIAGNOSIS. Distinguished from the rest of the species group by the nearly straight posterior half of the postmedial on the upperside of the fore wing.

DISTRIBUTION. Ferguson I., New Guinea.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 2 ♀, N.E. British New Guinea, Kumusi R., low level, June, July '07, A. S. Meek; 2 ♀, Milne Bay, Oct., xii.98, A. S. Meek; 1 ♀, Mafulu, 4,000 ft., xii.1933, L. E. Cheesman; Dinawa, 4,000 ft., Sept. 1902, Coll. A. E. Pratt; 2 ♂, Dutch New Guinea, Humboldt Bay Distr., Wembl., 30.vii, 8.viii.1937; 2♂, Snow Mts., nr. Oetakwa, up to 3,500 ft., x–xii.1910, Meek (including syntype of ab. *suffusa*); 1 ♂, Fak Fak, 1,700 ft., Jan-Feb. '08, Pratt; 1 ♂, 1 ♀, Central Arfak Mts., Ninay Valley, 3,500 ft., Nov.'08 to Jan.'09 and Feb.-March '09 (including syntype of ab. *suffusa*).

Species group *crocea* Leech

Although the colour pattern of the group is similar to that of the previous group, it is readily distinguished from it by the presence of three medial spots on the upperside of the fore wing in both sexes, and a dark patch of thickened (sensory?) scales at the base of the cell on the underside of the fore wing in the male. In the male the gnathus is produced anteriorly as a long narrow band, the socii are well developed and the uncus is bifurcate into a pair of unbranched arms.

The species *crocea* Leech and *unispina* sp. n. would undoubtedly have been treated as races of one species had it not been for the fact that they are sympatric in part of their ranges, apparently without interbreeding. *T. septempunctata* Warren is polytypic.

Tridrepana crocea (Leech) (comb. nov.)

Drepana crocea Leech, 1888, *Proc. zool. Soc. Lond.* **1888**: 649 (fig.).
Albara crocea (Leech), Kirby, 1892, *Syn. Cat. Lep. Het.* p. 734.
Drepana crocea Leech, Strand, 1911, *Gross-Schmetterl.* **2**: 201.

Konjikia crocea (Leech), Nagano, 1917, *Bull. Nawa ent. Lab.* **2** : 39.
Drepana crocea Leech, Gaede, 1931, *Lepid Cat.* **49** : 26.

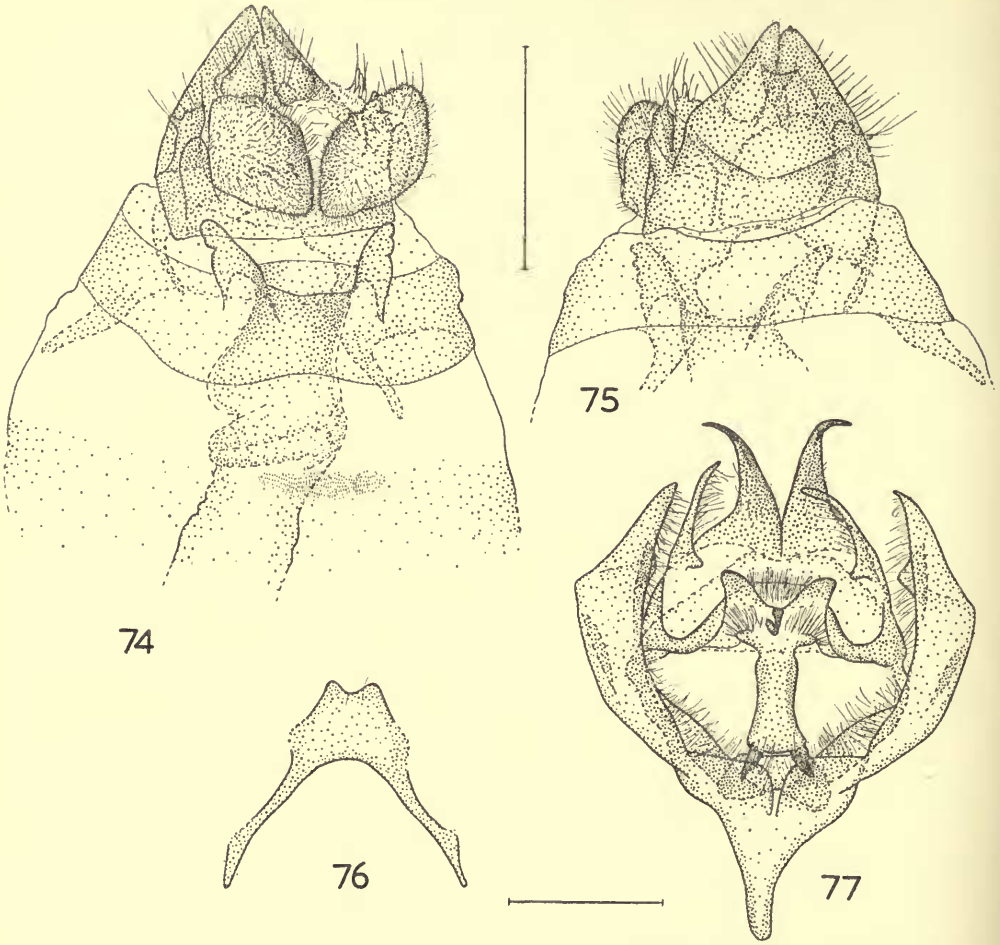
TYPE. Holotype female, Japan, H. Pryer Coll.; Drepanidae genitalia slide no. 372 (described as male, in error).

DESCRIPTION : MALE (Pl. 2, fig. 12). 37·4, 30·4–42·6 mm. (78). As for *albonotata angusta* but with following differences. Outer margin of fore wing usually slightly convex ; ground colour of upperside OOY–17/18–12°, all markings slightly darker ; mid-cell spot present ; medial shade O–14–11°, part distal to postmedial rather broader than in *albonotata* ; postmedial indented inwards immediately anterior to cell ; anterior subterminal markings more conspicuously edged distally and laterally with whitish scales ; marginal shade not extending posterior to M_3. Hind wing with white streak along base of Cu_1 at end of cell, as in *albo celebesensis* ; distal postmedial line only developed posteriorly, diffusely marked. Both wings lustrous except for small patches proximal to markings of subterminal, all area distal to it, and dark centres of anterior subterminal markings in fore wing, and in area distal to subterminal in hind wing. Underside OOY–18–11°. Fore wing with anterior part of distal postmedial line, anterior part of subterminal, and discocellular spot moderately well marked ; trace of posterodistal spot ; patch of dark, thickened, rounded scales (possibly sensory) along and on either side of posterior border of cell from base to mid-way between base and Cu_2 ; greatest width of patch equal to half greatest diameter of eye, tapered distally. Proximal half of hind wing with numerous elongate raised scales forming whorl at humeral angle.

FEMALE. 44·4, 41·4–52·2 mm. (13). As for male but with following differences. Antenna minutely bipectinate, longest pectination about twice diameter of shaft at that point. Outer margin of fore wing usually more strongly convex. Upperside of both wings sometimes more weakly coloured ; more distinctly lustrous. Without (sensory ?) patch on underside of hind wing.

GENITALIA : MALE (Text-figs. 76, 77). Saccus moderately long, tapered. Valve arcuate, pointed and slightly falcate at apex. Anellus produced anterodorsally dorsal to base of aedeagus, then bent dorsally through nearly 360°, forming short, slightly tapered plate closely apposed to anterior part of gnathus. Gnathus with pair of stout, dorsoventrally flattened lobes medially, with short slender process between them ; produced anteriorly, terminating in pair of stout, spiny, conical processes ; short sub-anal flap ; lateral arms strongly developed, arcuate. Socius long, slender, with short process near base. Uncus bifurcate posteriorly into pair of sharply tapered, downcurved arms. Outer cornutus of aedeagus geniculate apicad, three-quarters length of inner cornutus ; vesica spinose, longest spine over half greatest width of inner cornutus. Eighth sternite weakly bilobed posteriorly. Eighth tergite quadrate, about one and a half times as long as its greatest transveres width ; greatest width one and a quarter times as wide as greatest width of eighth sternite ; apodemes usually two-thirds as long as least width of tergite.

FEMALE (Text-figs. 74, 75). Posteromedial margin of preostial sternite with small, minutely hairy patch. Bursa copulatrix with pair of elongate signa (shape as for *albonotata*). Ductus bursae minutely scobinate anteriorly, rugose and more lightly scobinate posterior to junction with spermathecal duct ; strongly sclerotized



FIGS. 74 and 75. *Tridrepana crocea* (Leech), holotype female. 74. Ventral view of ostium and ovipositor lobes. 75. Dorsal view.
FIGS. 76 and 77. *T. crocea* (Leech), male. 76. Eighth sternite. 77. Genitalia.

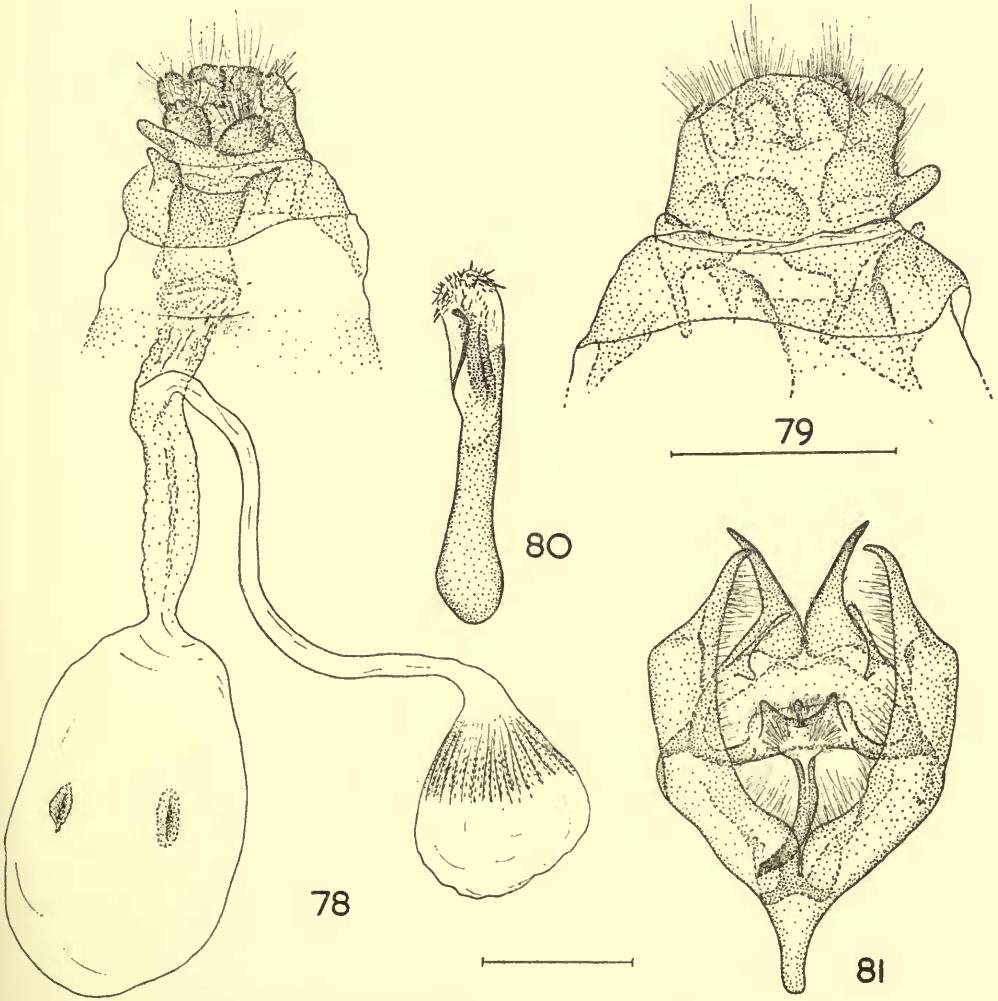
anteriorly. Ostium with flattened lobe on either side. Spermatheca radially ornamented, as for *fulvata*. Ventral ovipositor lobes papillate, densely hairy; dorsal lobes forming heavily sclerotized triangular structure. Pair of small irregularly shaped lobes one on either side of ventral lobes; further flattened, digitate lobe on either side immediately anterior to latter.

DIAGNOSIS. Most readily distinguished from the rest of the species group by the shape of gnathus in the male and the shape of the ovipositor lobes in the female.

DISCUSSION. Although this species is morphologically very close to *unispina*, it is sympatric with it in part of its range apparently without interbreeding, and must therefore be specifically distinct from it.

DISTRIBUTION (Text-fig. 155). Japan, and the following provinces of China: Chekiang, Fukien and Hunan.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 1 ♂, Japan, Asam, 10.viii.96, Jones; 1 ♂, 1 ♀, Honshu Plains, prov. Musashi, Tokyo, 10, 12.x.1893, A. E. Wileman; 42 ♂, 1 ♀, Takao-San, W. of Tokyo, June, July, 1926, June 1925, M. Aigner; 1 ♂, Takao-San, 21 Sept. 1950, H. Inoue; 1 ♂, Nikko, October 1925, M. aigner; 11 ♂, 3 ♀, Honshu, prov. Yamato (Nara), Yoshino, vii.x.1899, vii, ix, x 1900, June 1901, A. E. Wileman; 3 ♂, Yoshima, August 1899, Aug., Oct. 1900, A. E. Wileman; 1 ♀, Hondo (Honshu) Kioto, x.1908, G. Kon; 2 ♂, 1 ♀, Japan. ZOOL. FORSCHUNGSINSTITUT U. MUS. A. KOENIG, BONN: 1 ♀, Jokohama, 25.x.11; H. Höne; 2 ♂, Yokohama, 1891; 1 ♀, Hakone am Fuji, Aug. 1916, H Höne; 9 ♂, 2 ♀, (China), Chekiang, West Tien-Mu-Shan, 1,600 m., 5, 7, 9, 10, 11.1932,



FIGS. 78 and 79. *Tridrepana unispina* sp. n., allotype female. 78. Ventral view of genitalia. 79. Dorsal view.

FIGS. 80 and 81. *T. unispina* sp. n., male. 80. Aedeagus. 81. Genitalia.

H. Höne ; 2 ♂, Chekiang, Ost Tien-Mu-Shan, 9.xi.32, 21.v.1931, H. Höne ; 2 ♂, Fukien, Kuatun, 2,300 m., 28.v.1938, L. J. Klapperish ; 3 ♂, Fukien, Kuatun, 7, 8, 9.38, H. Höne; 1 ♀, Sudchina, Amoy, 7.viii.24, H. Höne ; 2 ♂, Hunan, Hoeng-Shan 900 m., 4, 16.v.1933, H. Höne.

Tridrepana unispina sp. n.

pro parte *Drepana crocea* Leech, Strand, 1911, *Gross Schmetterl.* **2** : 201.
pro parte *Drepana crocea* Leech, Gaede, 1931, *Lepid. Cat.* **49** : 26.
Drepana crocea Leech, Strand, 1915, Arch. Naturgesch. A**12** : 163.

TYPE. Holotype male, Moupin (W. China, Szechwan), June 1890, Kricheldorff coll.; Drepanidae genitalia slide no. 183.

DESCRIPTION : MALE. 36·0, 31·6–42·0 mm.(7). As for *crocea*, but with (sensory ?) patch at the base of the cell on the underside of the fore wing narrower ; greatest width one-quarter to one-third diameter of eye.

FEMALE. 47.6, 47.2–48.0 mm. (2). As for ♀ *crocea*.

GENITALIA : MALE (Text-figs. 80, 81). Similar to *crocea*, differing chiefly in the shape of the anellus and gnathus ; eighth tergite relatively longer, about twice as long as its greatest transverse width.

FEMALE (Text-figs. 78, 79). Bursa copulatrix, spermatheca and associated ducts as for *crocea*. Ostial lobes similar to *crocea* but shorter. Shape of ovipositor lobes quite different from *crocea*.

DIAGNOSIS. Easily distinguished from *crocea* by the shape of the gnathus in the male genitalia and by the shape of the ovipositor lobes in the female.

DISCUSSION (see *crocea*).

DISTRIBUTION (Text-fig. 155). Formosa, and the following provinces of China : Fukien, Yunnan.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : allotype ♀, with same data as holotype. Drepanidae genitalia slide no. 374 ; 1 ♂, Formosa, Kansherei, 1,000 ft., 15.xi.1908, A. E. Wileman. ZOOL. FORSCHUNGSINSTITUT U. MUS. A. KOENIG, BONN : 2 ♂, Fukien, Kuatun, 2,300 m., 27.40 N, 117.40 E., 19.v.1946, J. Klapperich ; 1 ♂, 1 ♀, prov. Nord Yunnan, Li-kiang, 8.vi.23, 2.ix.1935, H. Höne. DEUTSCHES ENTOM. INSTITUT, BERLIN : 1 ♂, Formosa, Alikang, '09 ; 1 ♂, Formosa, v-vi.1912, H. Sauter.

Tridrepana septempunctata septempunctata Warren

Tridrepana septempunctata Warren, 1896, *Novit. zool.* **3** : 339.
Iridrepana septempunctata Warren, Warren, 1922, *Gross-Schmetterl.* **10** : 465.
Tridrepana septempunctata Warren, Gaede, 1931, *Lepid. Cat.* **49** : 30.
Drepana albonotata Moore, Hampson, 1897, *J. Bombay nat. Hist. Soc.* (2) **11** : 288.
Drepana albonotata var. *septempunctata* Warren, Dudgeon, 1899. *J. Bombay nat. Hist. Soc.* (4) **12** : 654.

TYPE. Holotype male, Khasis, Nov. 1895, Nat. Coll.; Drepanidae genitalia slide no. 185.

DESCRIPTION : MALE (Pl. 2, fig. 17). 32·3, 30·2.–34·6 mm. (3). As for *crocea* but with following differences. Fore wing more strongly falcate ; upperside with medial

shade darker, O–11–10°; enlarged anterior markings of subterminal, especially spot between M_1 and M_2, with broader whitish edge. Upperside of fore wing lustrous, except area immediately distal to medial shade and proximal to subterminal, area distal to subterminal posterior to M_3, and dark centres of anterior subterminal markings; hindwing with similar distribution of lustrous scales, but whole of area distal to subterminal lustrous. Underside of fore wing with (sensory ?) patch extending distally as far as base of Cu_2; marginal shade distal to anterior part of subterminal moderately well marked, O–8–12° to O–15–10°.

GENITALIA: MALE (Text-figs. 82, 83). Saccus moderately long, digitate. Valve evenly tapered; apical two-thirds slightly arcuate; bluntly pointed. Anellus produced posteriorly as short truncate plate, weakly bilobed at base; closely apposed to gnathus posteriorly. Gnathus with broad, hairy, medial pad forming short sub-anal flap posteriorly; produced anteriorly as narrow, dorsally arched band, terminating close to anellus in small conical process. Socius long, slender, with short process at base. Uncus bifurcate nearly to base posteriorly into pair of tapered, down-curved arms, distinctly dilated basad. Aedeagus as for *crocea* but with inner cornutus just under half length of aedeagus, and with no spine longer than half greatest width of inner cornutus. Eighth sternite about three times as long as broad, truncate posteriorly. Eighth tergite twice as long as its transverse width, as wide anteriorly as length of eighth sternite, slightly tapered anteriorly; apodemes about half as long as least width of tergite.

FEMALE. Not known.

DIAGNOSIS. Distinguished from *crocea* by the broader whitish edge to the anterior subterminal markings on the upperside of the fore wing. Readily separated from all species of the species group by the genitalia.

DISTRIBUTION. India, (Assam). A male from Tonkin (in Muséum National, Paris) is probably subspecifically distinct from this race.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 1 ♂, from type locality, Oct.1895, Nat. Coll.; 1 ♂, Jainta Hills, Sundye.

Tridrepana septempunctata nitidior ssp. n.

TYPE. Holotype male, S.W. Sumatra, North Korintji Valley, 5,000 ft., Sept.–Oct. 1921, C.,F., and J. Pratt; Drepanidae genitalia slide no. 468.

DESCRIPTION: MALE. 34·8, 33·2–36·2 mm. (4). As for nominate race but with following differences. Upperside of fore wing with antemedial and postmedial darker in colour; proximal part of medial shade differently coloured due to absence of lustrous scales, O/OOS–10–10°. Hind wing with antemedial and postmedial darker in colour. Lustrous scaling of upperside of fore wing confined to area extending from immediately proximal to postmedial to immediately distal to subterminal, excluding dark centres of anterior subterminal markings. In hind wing, whole of area from base of wing to immediately distal to subterminal lustrous, most distinctly so distally. (Sensory ?) patch on underside of fore wing narrower, of uniform width, extending distally to Cu_1.

GENITALIA: MALE (Text-figs. 87, 88). As for nominate race but with following

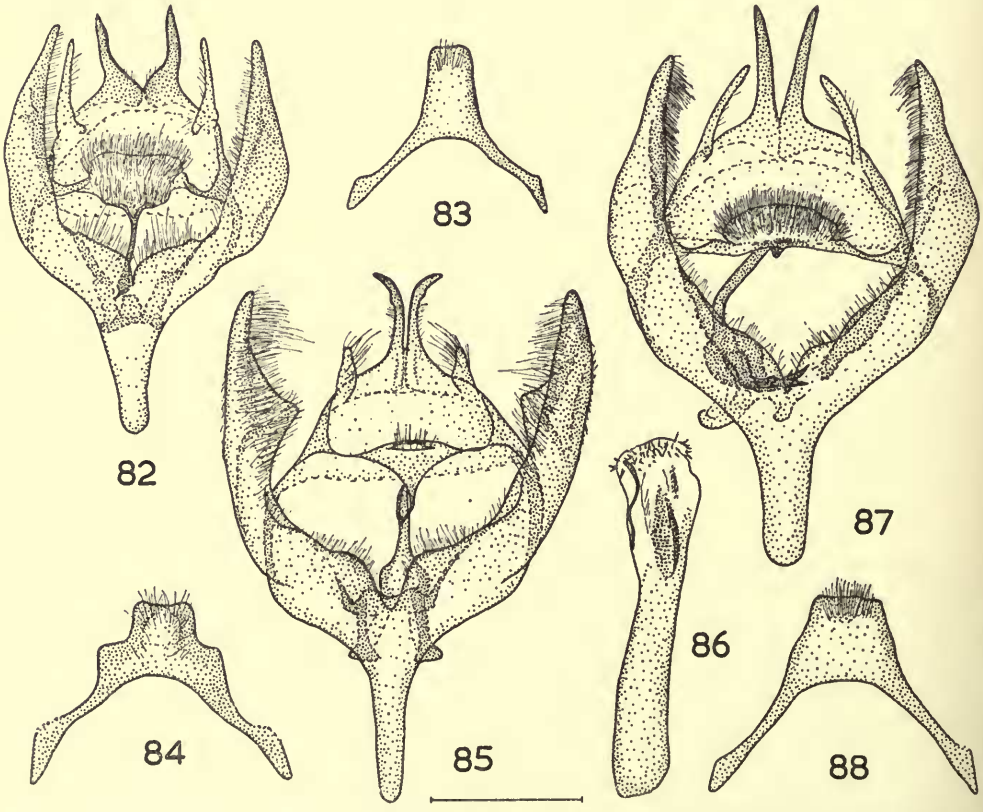
differences. Ventral margin of valve with basal bulges less well developed. Anterolateral lobes near base of anellus much larger; posterior process slightly constricted at base. Medial hairy part of gnathus crescentic; anterior part longer than in nominate race, more distinctly expanded apicad and terminating in large spinose process. Socius without basal process. Base of uncus not dilated. Eighth sternite just longer than its least transverse width.

FEMALE. Not known.

DIAGNOSIS. Easily distinguished from the nominate race by the different distribution of lustrous scales.

DISTRIBUTION. S.W. Sumatra.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 2 ♂ paratypes, with same data as holotype; 1 ♂ paratype, S.W. Sumatra, Barisan Range, Western Slopes, 2,500 ft., Oct.–Nov. 1921, C., F., and J. Pratt.



FIGS. 82 and 83. *Tridrepana septempunctata septempunctata* Warren, holotype male. 82. Genitalia. 83. Eighth sternite.

FIGS. 84–86. *T. subtusmaculata* Gaede, male. 84. Eighth sternite. 85. Genitalia. 86. Aedeagus.

FIGS. 87 and 88. *T. s. nitidior* ssp. n., holotype male. 87. Genitalia. 88. Eighth sternite.

Tridrepana subtusmaculata Gaede (stat. nov.)

Tridrepana septempunctata f. *subtusmaculata* Gaede, 1933, *Bull. Mus. Hist. nat. Belg.* **9**, No. 43 : 2.

TYPE. Holotype male, Malacca, Pahang, 10.xi.1932, Coll. Prince Leopold Voyage Indes (at Institut Royal des Sciences Naturelles de Belgique).

DESCRIPTION : MALE. (Pl. 2, fig. 15). 34·1, 31·4–36·8 mm. (4). Outer surface of palp, antenna, and head between and posterior to antennae OOS–9–12° ; head anterior to antennae OOS–6–12°, to OOS–9–12° above labrum ; longest antennal pectination about one and a quarter times greatest diameter of eye.

Thorax with narrow whitish anterior border, rest of thorax and abdomen OOS–9/10–12° above, OOY–19–10° below. Fore wing very strongly falcate, outer margin slightly convex ; venation as for *crocea*. Upperside of both wings with medial fasciae and spots as for *crocea*, but whitish discocellular spot on fore wing smaller and distal postmedial line on hind wing concealed by medial shade. Medial shade of fore wing strongly marked, extending from base of wing to short distance distal to postmedial ; OOS–9/10–12° proximal to postmedial, lustrous and lighter distal to postmedial, OOS–12–11° ; distal border of shade nearly straight (ct. *crocea*). Subterminal as for *crocea* posterior to M_2 ; lunulate between R_4 and M_2, markings proximally convex ; edged distally and proximally with whitish scales between R_5 and M_3, especially distal to M_1–M_2 marking ; streak of greyish white scales extending from immediately proximal to R_4–R_5 marking to apex of wing. Marginal shade between anterior part of subterminal and outer margin OOS–12–7° to OOS–4–8°, most strongly marked apically and immediately distal to subterminal markings. Rest of wing OOY–19–12°. Upperside of hind wing OOY–19–9° anteriorly, ground colour of rest of wing OOY–17–12°. Medial shade as for fore wing but slightly lighter due to lustrous scales ; subterminal as for *crocea*. Costal area of fore wing and area distal to postmedial lustrous, except for narrow band proximal to subterminal, and anterior markings of subterminal : in hind wing, area extending from just distal to distal border of medial shade to base of wing lustrous, most distinctly so distally ; markings of subterminal also lustrous. Underside of fore wing OOY–17–11° anterior to cell, OOY–18–10° posterior to cell ; cell and area between it and subterminal O–12–3° ; anterior part of distal postmedial line strongly marked ; subterminal represented by large, ovate, whitish spot between M_1 and M_2, and sometimes by similar but much smaller spot between R_5 and M_1, and between M_2 and M_3 ; subterminal markings edged with O–5–9° ; marginal shade similarly coloured ; (sensory ?) patch at base of cell as for *crocea* but narrower, greatest width equal to one third greatest diameter of eye. Underside of hind wing OOY–18–10°, medial shade sometimes showing through faintly. Underside of both wings sublustrous.

GENITALIA : MALE (Text-figs. 84, 85, 86). Saccus long, digitate. Valve slightly arcuate, very bluntly pointed. Anellus produced anteriorly on either side of medial line then curved dorsally through nearly 360°, sides uniting medially to form dorsoventrally flattened plate, sharply tapered and continued posteriorly as narrow band to meet anterior part of gnathus to which it is closely apposed. Gnathus with small hairy subanal flap, and broad triangular medial plate which is sharply tapered

anteriorly, reflexed dorsally then looped forwards again to meet anellus; lateral arms slender. Socius short, about four times as long as its greatest diameter; without basal process. Uncus bifurcate nearly to base into pair of slender, downcurved arms, weakly dilated dorsobasally. Aedeagus with inner and outer cornutus; vesica spinose, longest spine just longer than greatest width of outer cornutus. Shape of eighth sternite distinctive (see figure). Eighth tergite not as long as its greatest transverse width, nearly twice as wide anteriorly as greatest width of eighth sternite, tapered posteriorly; posterior margin about half length of anterior margin.

FEMALE. Not known.

DIAGNOSIS. Distinguished from the rest of the species group by the more strongly falcate fore wing, and the presence of a medial shade on the hind wing.

DISTRIBUTION. Malaya, S.E. Borneo.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 1 ♂ F.M.S., Perak, Larut Hills, 3,700 ft., 11.Feb. 1932, H. M. Pendlebury; 1 ♂, S.E. Borneo, Samarinda, ix.1938, M. E. Walsh.

Species group ***olivacea*** Warren

This group contains four species. All except *obliquitaenia* Warren closely resemble *fulvata* Snellen in colouration, but are distinguished from it by the possession of only three medial spots, and by the larger size: apart from the former species there are only small interspecific differences. The male genitalia is quite distinctive (Text-figs. 92–103).

olivacea Warren is polytypic: the New Guinea race is dimorphic, there is a yellow form and and a brown form.

Tridrepana examplata Warren

Iridrepana examplata Warren, 1922, *Gross-Schmetterl.* **10**: 465.
Tridrepana examplata Warren, Gaede, 1932, *Lepid Cat.* **49**: 29.

TYPE. I select the following specimen as lectotype. Lectotype male, Central Dutch New Guinea, Mt. Goliath, about 139° long., 5–7,000 ft., January 1911, A. S. Meek; Drepanidae genitalia slide no. 356.

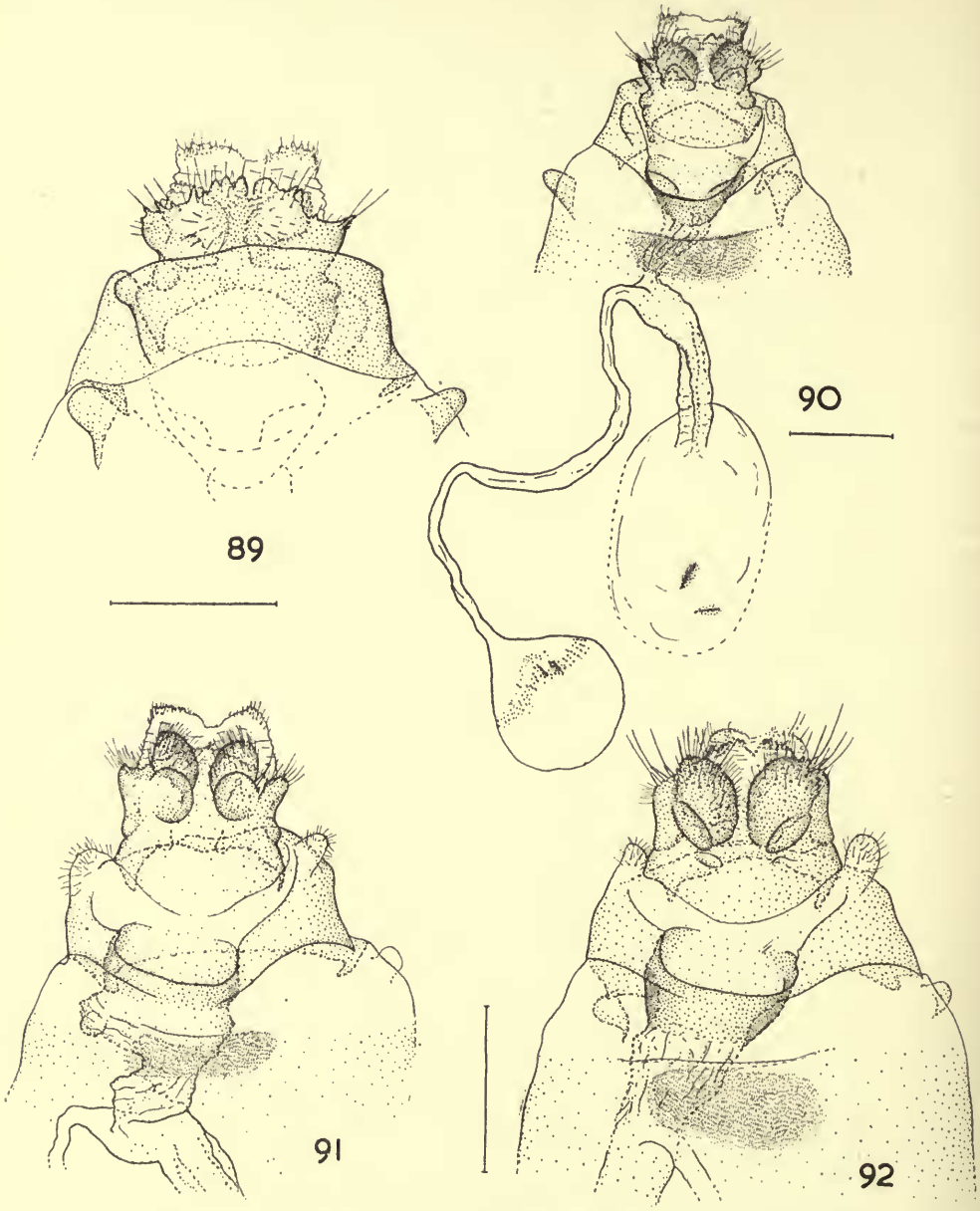
DESCRIPTION: MALE (Pl. 2, fig. 14). 42·4, 38·0–46·2 mm. (79). Outer surface of palp, antennae, and head between and posterior to antennae OOY–16/17–11°; head OOS–10–12° anterior to antennae, to OOY–16/17–11° above labrum; longest antennal pectination equal to one and a half times greatest diameter of eye.

Thorax with narrow whitish anterior border, rest of thorax and abdomen OOY–17–10° above, OOY–19–11° beneath. Fore wing strongly falcate; outer margin straight except at apex; venation as for *fulvata*, but R_1 usually from one-third areole and R_3, R_4 and R_5 sometimes shortly stalked. Ground colour of upperside of fore and hind wing OOY–17/18–12°. Antemedial of fore wing from one-sixth costa to one-third inner margin; postmedial simple, from just over two-thirds costa to two-thirds inner margin, strongly lunulate between M_3 and Cu_2; both medial fasciae OOS/O–6–7°; broad, oblique, medial shade between medial fasciae except for base of cell and small patches immediately proximal to postmedial markings

between M_3 and Cu_2, extending distal to postmedial anteriorly, reaching apex along costa, OOS/O–11–5° ; whitish mid-cell spot edged with OOS/O–6–7° ; similar but smaller discocellular spot, also edged with darker scales ; posterodistal spot as for mid-cell spot but with surrounding dark area usually extending posteriorly to Cu_2 ; subterminal O–1–8°, expanded into rounded spots between M_1 and M_3, markings between apex and M_3 edged distally with whitish scales, fascia continued posteriorly as short interneural dashes ; marginal shade between anterior part of subterminal and outer margin from apex to mid-way between M_3 and Cu_1, OOS/O–6–7° ; fringe bordering marginal shade slightly darker. All scaling lustrous except for area extending from immediately distal to postmedial to outer margin posterior to M_3, and distal half of dark centres of anterior subterminal markings ; most distinctly lustrous near postmedial. Hind wing venation as for *fulvata* but Sc + R_1 usually anastomosing with Rs for short distance after end of cell. Colour of fasciae of upperside of hind wing as for fore wing ; trace of antemedial at base of cell, between Cu_2 and 2A and at inner margin ; small dark discocellular spot ; whitish posterodistal spot, additional whitish streak at base of Cu_1, both surrounded by area of OOS/O–11–5° ; further minute whitish streak usually present near base of Cu_2, also edged with darker scales ; postmedial simple, from one-third inner margin, dentate, diffusely marked posteriorly ; subterminal of short interneural dashes. Wing lustrous except for area extending from outer margin to immediately distal to postmedial, excluding markings of subterminal ; most distinctly lustrous near postmedial. Underside of both wings OOY–18–12°, except for fore wing proximal to postmedial (OOY–16/17–11°) ; fore wing with trace of mid-cell spot and posterodistal spot ; discocellular spot well marked ; anterior part of postmedial and subterminal well marked as interneural dashes ; distal part of marginal shade also present ; fringe bordering marginal shade as for upperside.

FEMALE (Pl. 2, fig. 16). 48·3, 41·2–51·0 mm. (7). As for male but with following differences. Longest antennal pectination two-thirds greatest diameter of eye. Outer margin of fore wing more strongly convex. Upperside of both wings usually slightly lighter in colour ; fore wing without medial shade, and with marginal shade between anterior part of subterminal and outer margin not extending posterior to M_3 ; underside of both wings also usually lighter than in male.

GENITALIA : MALE (Text-figs. 93, 94, 95). Saccus moderately long, tapered. Valve broad, laterally flattened, densely hairy ; inner surface concave. Anellus produced posteriorly as broad sclerotized band dorsal to base of aedeagus, then reflexed dorsally to form dorsoventrally flattened pouch-like invagination ; dorsal wall of pouch minutely spinose anteriorly, densely hairy posteriorly, and produced as far as gnathus. Gnathus with large, truncate, subanal flap medially, and convex, tapered, apically conical anterior part ; lateral arms stout. Socius very small. Uncus subquadrate : posterior shoulders slightly produced ; bifurcate medially and produced ventrolaterally on either side as tapered arm. Aedeagus with inner and outer cornutus ; vesica scobinate and minutely spinose. Eighth sternite variable in shape but usually as in figure. Eighth tergite twice as long as its least transverse width, greatest width about twice least width of eighth sternite, slightly tapered posteriorly ; posterolateral corners produced into short, pointed lobes.



FIGS. 89 and 90. *Tridrepana exemplata* Warren, female. 89. Dorsal view. 90. Ventral view of genitalia.

FIG. 91. *T. olivacea olivacea* Warren, female, ventral view of ostium and ovipositor lobes.

FIG. 92. *T. o. crocata* ssp. n., allotype female, ventral view of ostium and ovipositor lobes.

FEMALE (Text-figs. 89, 90). Bursa copulatrix with two signa (shape as for *albonotata*). Ductus bursae minutely scobinate anterior to junction with spermathecal duct; posterior third not scobinate, strongly rimose. Spermatheca with radial ornamentation. Ostium with strongly developed anterior margin. Preostial sternite with minutely hairy, rectangular patch posteromedially; segment with short, rounded, membranous lobe on either side. Ostial segment with similar but smaller lobe ventrolaterally on either side. Anterior apophyses short. Ventral ovipositor lobes glabrous basally, papillate and hairy distally. Dorsal lobes weakly developed dorsally, each extending laterally to near lateral border of corresponding ventral lobe. Posterior apophyses short, strongly developed.

DIAGNOSIS. Distinguished in both sexes from *olivacea* (except for the brown form of the New Guinea race), by the more distinct lustrous areas on the upperside of both wings, especially near the postmedial of the fore wing.

GENITALIA. The shape of the anellus in the male separates the species from *olivacea*. In the female the absence of posterolateral hairy lobes on the ostial segment is similarly diagnostic.

DISCUSSION. It is interesting to compare the colour pattern of this species with that of another taxon from New Guinea, *lunulata fasciata*. In the latter, only a small percentage of the specimens of both sexes examined were of the banded form, i.e. having a dark medial shade on the upperside of the fore wing. A similar medial shade was present in all the male specimens of *examplata* examined, but absent in all the females.

DISTRIBUTION. Distributed throughout New Guinea.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST): syntype ♀, with same data as lectotype, Drepanidae genitalia slide no. 387; 10 ♂, 1 ♀, from type locality, Jan., Feb. 1911, A. S. Meek; 2 ♂, from type locality, Jan.–Feb. 1911: 32 ♂, Weyland Mts., Kunupi, Menoo Valley, 6,000 ft., Nov.–Dec. 1920, Dec. '20 to Jan. '21, C., F., and J. Pratt; 11 ♂, 1 ♀, Wandammen Mts., 3–4,000 ft., Nov.1914, A. C. and F. Pratt; 7 ♂, 1 ♀, Central Arfak Mts., Ninay Valley, 3,500 ft., Nov. '08 to Jan. '09, Feb. and March '09; 1 ♂, 1 ♀, Arfak Mts., Angi lakes, 6,000 ft., Jan.–Feb. 1911, March 1914, A. C. and F. Pratt; 1 ♂, Cyclops Mts., Sabron, Camp 2, 2,000 ft., vii.1936, L. E. Cheesman; 2 ♂, British New Guinea, Kratke Mts., Buntibasa distr., 4,000–5,000 ft., April, vii.1932, F. Shaw-Mayer; 3 ♂, 1 ♀, Angabunga R., affl. of St. Joseph R., 6,000 ft., upwards, Nov. 04–Febr. '05, A. S. Meek; 2 ♂, Dinawa, 4,000 ft., Sept. 1902, Coll. A. E. Pratt; 1 ♂, Hydrographer Mts., April 1918, Eichhorn Bros.; 16 ♂, Mambare R, Biagi, 5,000 ft., Jan., Feb., April '06, A. S. Meek. RIJKSMUSEUM VAN NATUURLIJKE HISTORIE: 3 ♂, 1 ♀, Nieuw Guinea Exp., K.N.A.G., Paniai, Araboebivac, ix, x.1939.

Tridrepana olivacea olivacea Warren

Iridrepana olivacea Warren, 1922, *Gross-Schmetterl.* **10**: 464.
Tridrepana fulvata ab. *olivacea* Warren, 1903, *Novit. zool.* **10**: 346.
Tridrepana fulvata ab. *olivacea* Warren, Gaede, 1931, *Lepid. Cat.* **49**: 29.
Iridrepana semirufa Warren, 1922, *Gross-Schmetterl.* **10**: 464 (SYN. NOV.).
Tridrepana semirufata Warren, Gaede, 1931, *Lepid. Cat.* **49**: 30.

Iridrepana semirufa elegans Warren, 1922, *Gross-Schmetterl.* **10** : 465. (SYN. NOV.).
Iridrepana semirufa ab. *diluta* Warren, 1922, *Gross-Schmetterl.* **10** : 465. (SYN. NOV.)
Tridrepana tristigma Warren, 1922, *Gross-Schmetterl.* **10** : 465 (SYN. NOV.).
Tridrepana tristigma Warren, Gaede, 1931, *Lepid Cat.* **49** : 31.

TYPE. I select the following specimen as lectotype. Lectotype male, Brit. N. G., Upp. Aroa R., March '03, Meek ; Drepanidae genitalia slide no. 170. (Brown form).

DESCRIPTION : MALE (yellow form). (Pl. 2, fig. 13). 37·8, 34·0–41·0 mm. (40). As for *examplata* but with following differences. Postmedial of upperside of fore wing less diffusely marked, markings between M_3 and Cu_1 more strongly lunulate and nearly pointed distally ; mid-cell spot smaller than discocellular spot, sometimes nearly obsolete (relative sizes of remaining spots as for *examplata*) ; posterior part of subterminal less distinctly marked ; marginal shade extending posteriorly to Cu_1 ; lustrous scaling less distinct, usually not extending to postmedial in middle of wing so that markings of postmedial between M_3 and Cu_1 enclose small non-lustrous areas proximally. Posterodistal spot on upperside of hind wing without additional streaks posteriorly ; subterminal less strongly marked. Underside of fore wing with no trace of mid-cell spot.

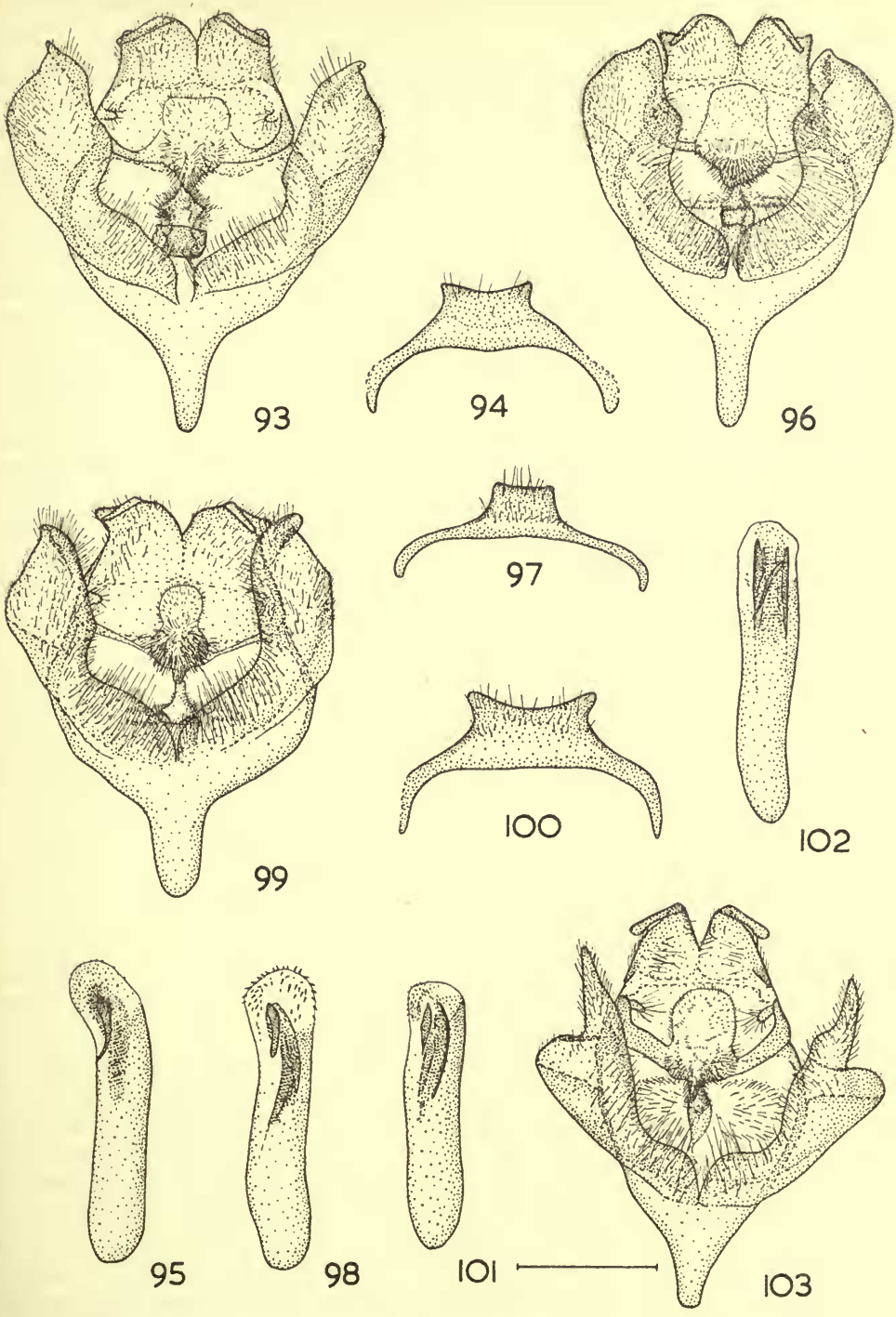
FEMALE. 44·6 mm. (1). As for male but with following differences. Longest antennal pectination about one-half greatest diameter of eye. Upperside of thorax and abdomen O/OOY–17–5°, except for narrow, whitish, anterior thoracic border. Outer margin of fore wing slightly convex. Upperside of fore wing O/OOY–14–7° ; costal area darker from base to two-thirds length of costa, and between postmedial and apex ; all cell spots edged with OOS/O–9–5° ; medial fasciae similarly marked, subterminal slightly darker especially anteriorly ; no medial shade (cf. female *exemplata*) ; marginal shade not extending posterior to M_3. Ground colour and colour of fasciae of hind wing as for fore wing. Whole of upperside of both wings lustrous except for markings of subterminal between R_5 and M_3 in fore wing, and area distal to subterminal in hind wing as for fore wing ; most distinctly lustrous near costa and base of fore wing.

GENITALIA. As for *examplata* but with following differences.

MALE. (Text-figs. 96–98). Apex of valve broader, ventral margin strongly convex near base. Anellus smaller, greatest transverse width equal to half greatest diameter of aedeagus ; invaginate medial part shallow and open, not pouch-like. Outer cornutus of aedeagus shorter, equal to half length of inner cornutus ; vesical spines longer, longest equal in length to greatest width of outer cornutus. Eighth sternite variable in size, but with posterior margin only slightly concave.

FEMALE (Text-fig. 91). Minutely spinose patch at posterior margin of preostial sternite narrower ; dorsoposterior lobes of segment smaller, not larger, than lateral lobes of ostial segment. Anterior lip of ostium not crescentic. Dorsolateral lobes of ostial segment hairy. Basal glabrous part of ovipositor lobes more strongly dilated ; dorsal lobes only indistinctly separated from each other posteriorly.

Brown form. The female has been described above. The male is similar to the female but with the following differences. Antennae and shape of fore wing as for male described above. Upperside of fore wing with medial shade OOS–6–6° ; transverse fasciae slightly darker than in female.



FIGS. 93–95 *Tridrepana examplata* Warren, lectotype male. 93, Genitalia. 94. Eighth sternite. 95. Aedeagus.

FIGS. 96–98. *T. olivacea olivacea* Warren, male. 96. Genitalia. 97. Eighth sternite. 98. Aedeagus.

FIGS. 99–101. *T. o. crocata* ssp. n., holotype male. 99. Genitalia. 100. Eighth sternite. 101. Aedeagus.

FIGS. 102 and 103. *T. obliquitaenia* Warren, holotype male. 102. Aedeagus. 103. Genitalia.

DIAGNOSIS. Distinguished from *examplata*, in the male, by the more finely marked, strongly lunulate postmedial on the upperside of the fore wing (in the yellow form, also by the less distinct lustrous areas).

GENITALIA. Separated from *examplata* by the shape of the anellus in the male, and by the presence of a hairy lobe on each side of the posterior margin of the ostial segment in the female.

DISCUSSION. Of the fifty-six specimens exmained, thirty-five belonged to the brown form, and the remaining specimens to the yellow form of the species. In the closely related and sympatric *examplata* all the specimens examined corresponded to the yellow form of *olivacea* ; in the sympatric *mediata*, all the specimens closely corresponded to the brown form, being brown above and yellow beneath.

DISTRIBUTION. Distributed throughout New Guinea, extending to Goodenough Is. in the south-east of its range.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : 14 ♂, Dutch New Guinea, Snow Mts., Upper Setekwa R., 2–3,000 ft., Sept.1910, A.S. Meek (including holotype ♂ of *semirufa* Warren and *diluta* Warren) ; 5 ♂, Snow Mts., nr. Oetakwa, up to 3,500 ft., x, xii.1910, Meek (including holotype ♂ of *elegans* Warren) ; 3 ♂, Wandammen Mts., 3–4,000 ft., Nov.1914, A. C. and F. Pratt. The following specimens are of the brown form of the species : 3 ♂, 1 ♀, from type locality (including holotype ♀ of *tristigma*) ; 1 ♂, Goodenough Is., 2,500–4,000 ft., May 1913, A. S. Meek ; 11 ♂, Hydrographer Mts., 2,500 ft., Jan., Jan.–May, Feb.1918, Eichhorn Bros ; 2 ♂, Brit. N. G. Mafulu, 4,000 ft., i.1934, L. F. Cheesman ; 2 ♂, Mt. Kebea, 3,000 ft, March, April, July 1903, A. E. Pratt ; 7 ♂, Mambare R., Biagi R., Saiko, 5,500–6,000 ft., Sept. 1936, F. Shaw Mayer ; 2 ♂, Angabunga R., affl. of St. Joseph R., 6,000 ft., upwards, Nov.'04–Febr.'05, A. S. Meek ; 5 ♂, Dutch N. G. Central Arfak Mts., Ninay Valley, 3,500 ft., Feb., March '09 ; 1 ♂, Arfak, Mt. Siwi, 800 m., iv–vi. 1928, Dr. E. Mayr.

Tridrepana olivacea crocata ssp. n.

pro parte *Iridrepana examplata* Warren, 1922, *Gross-Schmetterl.* **10** : 465.

TYPE. Holotype male, New Britain, Talesea, January 1925, A. F. Eichhorn ; Drepanidae genitalia slide no. 388.

DESCRIPTION : MALE. 41·4, 38·4–42·4 mm. (6). As for nominate race but with following differences. Ground colour of upperside of fore wing OOY–17–12° ; medial shade OOS/O–10–11° ; mid–cell spot larger than remaining spots ; markings of postmedial between M_3 and Cu_2 less strongly lunulate ; marginal shade not extending posterior to M_3. Wing lightly irrorated with lustrous scales from base to near distal edge of medial shade, most distinctly at base and in costal area ; cell spots and marginal shade lustrous ; subterminal lustrous except for markings between M_3 and Cu_2, and dark centres of anterior markings. Ground colour of hind wing as for fore wing ; posterodistal more broadly edged with darker scales ; postmedial more diffusely marked, as in *examplata* ; wing very lightly irrorated with lustrous scales from base to postmedial, posterodistal spot and anterior markings

of subterminal also lustrous. Ground colour of underside of both wings OOY/O–18–11°, fore wing slightly darker anterobasally; marginal shade on fore wing more strongly marked.

FEMALE. 46·8, 45·2–49·4 mm. (5). As for male but with following differences. Longest antennal pectination two-thirds greatest diameter of eye. Outer margin of fore wing slightly convex; upperside without medial shade (cf. female *examplata*), ground colour OOY–18–12°; medial fasciae and edges of cell spots OOS/O–6–4°, subterminal slightly darker; dark area surrounding posterodistal spot sometimes extending posteriorly to Cu_2; marginal shade extending posteriorly to M_2, with trace between M_2 and M_3. Wing lustrous from base to immediately distal to postmedial posteriorly, and to outer margin anteriorly; markings of subterminal lustrous between apex and M_3, irrorated with lustrous scales posterior to M_3. Hind wing colour as for fore wing; short additional, whitish streak at base of Cu_1 and Cu_2 posterior to posterodistal cell spot, all surrounded by area of dark scales. Wing lustrous from base to immediately distal to postmedial; subterminal irrorated with lustrous scales. Ground colour of underside of both wings OOY–18/19–12°; markings weaker.

GENITALIA. As for nominate race but with following differences.

MALE (Text-figs. 99, 100, 101). Saccus shorter and wider. Valve with bulge at two-fifths ventral margin less well developed. Anterior flattened part of anellus wider, width equal to greatest diameter of aedeagus. Vesical spines of aedeagus shorter, longest equal to one-third greatest width of outer cornutus. Eighth sternite variable in size, but with transverse width usually over one-half greatest width of eighth tergite.

FEMALE (Text-fig. 92). Minutely spinose patch at posterior margin of preostial sternite broader. Basal glabrous part of ventral ovipositor lobes smaller.

DIAGNOSIS. Distinguished from the nominate race by the colour of the upperside in the male, and by the larger mid-cell spot in both sexes. The genitalic characters given above readily separate the race from the nominate race and from *examplata*.

DISCUSSION. It is possible, though improbable, that the taxon described above is a subspecies of *examplata*. Further collecting may show that both *olivacea* and *examplata* are represented in Rook Is. and New Britain.

No form analogous to the brown form of *olivacea* appears to be present in these islands.

DISTRIBUTION. Rook Is. and New Britain. Sixteen males from New Ireland may belong to this race.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): allotype ♀, from type locality, March–April, 1925, A. F. Eichhorn, Drepanidae genitalia slide no. 395; 4 ♂ and 2 ♀ paratypes, from type locality, February, Feb.–March, Mar.–April 1925, A. F. Eichhorn; 2 ♀ paratypes, 1 ♂, Rook Isl., July, August 1913, A. S. Meek.

Tridrepana cervina Warren

Iridrepana cervina Warren, 1922, *Gross-Schmetterl.* **10**: 465. (fig.)
Tridrepana cervina Warren, Gaede, 1931, *Lepid. Cat.* **49**: 28.

TYPE. Holotype female, Brit. N. G., Mambare R., Biagi, 5,000 ft., Feb. '06, A. S. Meek.

DESCRIPTION. 44·4 mm. (1). Similar to brown form of *olivacea* but with following differences. Upperside of both wings more reddish, O–15–6/7° ; posterodistal spot in fore wing OOS–8–6° ; mid-cell spot and discocellular spot not edged with dark scales, former spot almost obsolete ; subterminal only developed anterior to M_3. Subterminal of hind wing just visible as extremely faint interneural dashes. Underside of both wings O/OOY–18–11°, without markings, but with markings of upperside showing through faintly.

GENITALIA. Not known (abdomen of holotype not genuine).

MALE. Not known.

DIAGNOSIS. Distinguished from the brown form of *olivacea* by the weakly marked colour pattern on the upperside of both wings and the almost obsolete subterminal in the hind wing.

DISCUSSION. The specimen described above may be conspecific with *olivacea* : further females of the brown form of *olivacea* might help to solve the problem.

DISTRIBUTION. British New Guinea.

Tridrepana obliquitaenia Warren

Iridrepana obliquitaenia Warren, 1922, *Gross-Schmetterl.* **10** : 465. (fig.)
Tridrepana obliquitaenia Warren, Gaede, 1931, *Lepid. Cat.* **49** : 29.

TYPE. Holotype male, Brit. N. Guinea, Kumusi R., low elev., July '07, A. S. Meek ; Drepanidae genitalia slide no. 409.

DESCRIPTION : MALE. 37·7, 35·2–41·8 mm. (14). Outer surface of palp, antenna, and head between and posterior to antennae OOY–15–11° ; head O–9–12° anterior to antennae, to OOY–18–10° above labrum ; antennal shape as for *examplata*.

Thorax with narrow whitish anterior border, rest of thorax and abdomen OY/YYO–18/19–12° above, OOY–19–10° beneath. Fore wing strongly falcate (less strongly than in *examplata*) ; outer margin straight except at apex ; venation as for *examplata*. Ground colour of upperside of fore wing as for thorax ; costa O–15–11°, lightly irrorated with darker scales ; antemedial from one-quarter costa, arched outwards (convex distally) to one-third inner margin ; postmedial from three-quarters costa to two-thirds inner margin, strongly lunulate between M_3 and Cu_2 ; oblique medial shade from just proximal to apex to posterior end of antemedial, narrow posteriorly, extended inwards anterior to cell to one-half costa, distal margin straight ; medial shade and fasciae O–9–9° ; subterminal faintly marked as interneural dashes posteriorly, expanded into rounded spots between M_1 and M_3, markings between apex and M_3 faintly edged distally with whitish scales ; very small posterodistal and discocellular spot, mid-cell spot minute or absent ; marginal shade between apex and Cu_1, O–5–7° ; fringe bordering marginal shade and between Cu_1 and Cu_2 O–5–7°. Wing lustrous from base to distal margin of medial shade, most distinctly lustrous along costa ; postmedial, subterminal (except for dark

centres of enlarged anterior markings) and marginal shade also lustrous. Colours of hind wing as for fore wing ; antemedial well marked, straight, forming continuous line with medial shade of fore wing ; postmedial from two-thirds inner margin, strongly dentate posteriorly ; trace of whitish posterodistal spot ; subterminal as in anterior part of fore wing. Wing irrorated with lustrous scales proximal to postmedial, most distinctly lustrous near base ; markings of postmedial and subterminal lustrous. Underside of both wings OOY–18–12°, except for proximal half of fore wing which is OOY–15–10° ; trace of discocellular spot ; postmedial strongly marked anteriorly, faintly marked posteriorly ; subterminal well marked from apex to M_3 ; trace of marginal shade ; fringe of outer margin as for upperside, but continuing dark to near tornus. Hind wing without markings.

FEMALE. Not known.

GENITALIA : MALE. (Text-figs. 102, 103). As for *examplata* but with following differences. Saccus shorter. Valve digitate apically. Anellus without pocket-like invagination ; only slightly concave anteriorly. Broad, hairy depression lateral to anellus. Medial part of gnathus differently shaped ; lateral arms broader. Uncus without angulate posterior shoulders. Outer cornutus of aedeagus more slender, inner cornutus more heavily sclerotized ; vesica minutely spinose, with group of longer spines on side opposite outer cornutus. Eighth sternite small, truncate posteriorly. Eighth tergite as long as its greatest transverse width, four times as wide anteriorly as least width of eighth sternite ; posterior processes sometimes equal in length to one-half length of posterior margin of tergite.

DIAGNOSIS. Easily distinguished from the other species of the species group by the colour pattern of the upperside.

DISTRIBUTION. Distributed throughout New Guinea (including Waigeu in the north-west of its range).

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : 3 ♂, from type locality, June, Aug. '07, A. S. Meek ; 1 ♂, Dutch New Guinea, Humboldt Bay distr., Uskwar, 3.ix.1937 ; 1 ♂, Mt. Nomo, S. of Mt. Bougainville, 7,000 ft., ii.1936 ; 1 ♂, Snow Mts., nr. Oetakwa R., up to 3,500 ft., x.xii.1910, Meek ; 1 ♂, Weyland Mts., Mt. Kunupi, Menoo Valley, 6,000 ft., Nov. and Dec. 1920, C., F., and J. Pratt ; 1 ♂, Geelvink By., Nomnagihé, 25 miles south of Wangaar, 2,000 ft., Jan.–Feb. 1921, C., F., and J. Pratt ; 4 ♂, Waigeu, Camp Nok, 2,500 ft., iv, v. 1938, L. E. Cheesman.

Species group *postica* Moore

The group contains three species. One, *rectifascia* sp. n., is placed here provisionally : the colour pattern is similar to the remaining species but the male genitalia is quite different. The colour pattern of the upperside of both wings is unlike that of any other species group (Pl. 2, figs. 1–4).

argentistriga Warren is polytypic.

A dark patch of thickened (sensory ?) scales is present at the base of the cell on the underside of the fore wing in *rectifascia* sp. n.

Tridrepana postica (Moore)

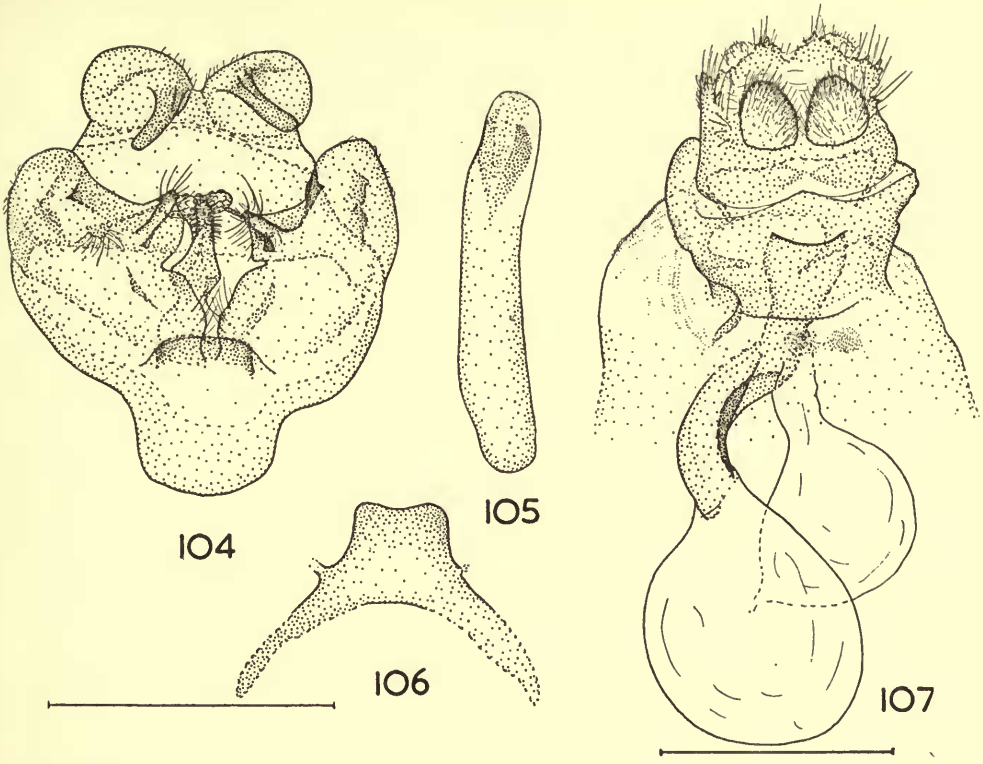
Drepana postica Moore, 1879, *Lepid. Atk.* p. 84.
Drepana postica Moore, Cotes and Swinhoe, 1887, *Cat. Moths India* p. 184.
Drepana postica Moore, Hampson, 1893, *Fauna Brit. India Moths* **1** : 337.
Drepana postica Moore, Dudgeon, 1899, *J. Bombay nat. Hist. Soc.* (4) **12** : 653.
Iridrepana postica (Moore), Warren, 1922, *Gross-Schmetterl.* **10** : 466.
Tridrepana postica (Moore), Gaede, 1931, *Lepid. Cat.* **49** : 30.
Drepana xanthoptera Hampson, 1893, *Fauna Brit. India Moths* **1** : 341.
Tridrepana xanthoptera (Hampson), Swinhoe, 1895, *Trans. R. ent. Soc. Lond.* **1895** : 4.

TYPE. Holotype male, Darjiling. (in Zoologisches Museum der Humboldt Universität, Berlin).

DESCRIPTION : MALE (Pl. 3, fig. 1). 30·6, 27·4–37·4 mm. (9). Outer surface of palp O–14–9° ; antennae and head between and posterior to antennae O–18–12° ; head anterior to antennae OOS–6–12°, to O–17–8° above labrum ; longest antennal pectination equal to one and a quarter times greatest diameter of eye. Thorax with narrow whitish anterior border, rest of thorax and abdomen OY–19–12° above, OOY–19–6° beneath. Venation of both wings as for *albonotata*. Fore wing moderately falcate, outer margin straight ; ground colour of upperside as for thorax ; trace of antemedial from one-quarter costa to one-third inner margin ; minute white posterodistal spot (sometimes two closely apposed spots) ; similar but smaller discocellular spot ; both spots usually edged with darker scales ; usually with medial shade between medial fasciae, extending distally in anterior half of wing to meet marginal shade, O–13–6° to OOS–13–6° ; postmedial from four-fifths costa to just distal to posterior end of antemedial, straight except at costa ; strongly marked ; subterminal of minute interneural spots or dashes, lunulate and edged with whitish scales between apex and M_3 ; diffusely marked marginal shade ; fringe of outer margin slightly darker than marginal shade from apex to near tornus. All scales of fore wing lustrous except for dark edge of cell spots, and narrow areas between anterior part of postmedial and subterminal. Ground colour of hind wing as for fore wing ; antemedial well marked, forming continuous line with postmedial of fore wing ; minute white discocellular spot and similar but larger posterodistal spot (sometimes two closely apposed spots) ; postmedial from one-quarter inner margin, nearly straight to M_3 then very slightly curved inwards round end of cell ; subterminal as in posterior part of fore wing ; wing lustrous except for small area surrounding cell spots. Underside of fore wing OOY–17/18–12°, darker proximally ; postmedial as for upperside but slightly lighter in colour ; subterminal usually well marked as small dark interneural spots ; fringe of outer margin as for upperside, or darker. Hind wing OOY–18/19–12° ; trace of transverse fasciae.

FEMALE. 38·0, 35·8–40·2 mm. (2). (Specimens badly worn). Apparently no significant differences from male.

GENITALIA : MALE (Text-figs. 104, 105, 106). Saccus short and broad. Valve small, apically rounded ; ventral margin with irregularly shaped lobe at three-fifths, and hairy oblique ridge on inner surface ; heavily sclerotised, sharply pointed process just inside ventral margin near apex, recumbent on inner surface of valve.



FIGS. 104–106. *Tridrepana postica* (Moore), male. 104. Genitalia. 105. Aedeagus. 106. Eighth sternite.

FIG. 107. *T. postica* (Moore), female, genitalia.

Anellus poorly developed, forming rounded plate ventral to base of aedeagus. Medial part of gnathus scobinate, minutely spinose and strongly evaginated posteriorly, flattened anteriorly; lateral arms very slender. Socius very small. Uncus weakly emarginate medially forming rounded lobe on either side; each lobe with slightly arcuate, digitate process ventrally. Aedeagus without cornuti; vesica minutely scobinate. Posterior margin of eighth sternite slightly concave. Eighth tergite. twice as wide transversely at its base as least width of eighth sternite, gradually tapered posteriorly; flattened spatulate lobe on each side near posterior margin, equal in length to just over half width of tergite at that point.

FEMALE (Text-fig. 107). Posterior margin of preostial sternite with small minutely spinose patch on either side of medial line. Bursa copulatrix without ornamentation. Ductus bursae well sclerotized, bent towards left side of abdomen; slightly furrowed anteriorly; conspicuous sulcus on right-hand side between bursa and junction of its duct with spermathecal duct. Spermatheca without ornamentation. Ventral ovipositor lobes papillate and hairy; dorsal lobes forming hood-like structure, papillate and hairy posteriorly, weakly emarginate posteromedially.

DIAGNOSIS. Distinguished from *argentistriga* by the presence of a subterminal fascia on the upperside of the hind wing.

DISTRIBUTION. N.E. India and Malaya.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 6 ♂ Khasis, Feb. 1894, Mar.1895, Aug., Oct.1896, Feb.1897, Nat. Coll.; 1 ♂, Khasia Hills, Nissary; 1 ♂, Cherrapunji, July 1893; 1 ♂, Naga Hills, 1,500 ft., Sept.–Oct.1889, W. Doherty (holotype of *xanthoptera* Hampson); 1 ♂, Malay States, Bukit Kutu, 3,300 ft., vii.28, A. R. Sanderson.

Tridrepana argentistriga argentistriga Warren

Tridrepana argentistriga Warren, 1896, *Novit. zool.* **3**: 339.
Iridrepana argentistriga Warren, Warren, 1922, *Gross-Schmetterl.* **10**: 466.
Tridrepana argentistriga Warren, Gaede, 1931, *Lepid. Cat.* **49**: 28.

TYPE. Holotype female, N. Borneo, Mt. Mulu, 1–4,000 ft., Hose; Drepanidae genitalia slide no. 415.

DESCRIPTION: MALE. 29·6, 28·0–31·2 mm. (2). As for *postica* but with following differences. Upperside of fore wing with mid-cell spot absent, and posterodistal spot very faintly marked or absent; markings of subterminal usually confluent, forming distinct whitish crescent anteriorly. Subterminal absent in hind wing. Anterior part of subterminal less distinctly marked on underside of fore wing.

FEMALE (Pl. 3, fig. 2). 34·9, 32·0–39·0 mm. (6). As for male (including attenna).

GENITALIA. As for *postica* but with following differences.

MALE (Text-figs. 108, 109, 110). Valve without pointed process on ventral margin. Posterior part of gnathus discoid. Uncus not expanded posterolaterally. Aedeagus with conspicuous ornamentation. Eighth sternite differently shaped, posterior margin slightly convex; apodemes very short. Eighth tergite about twice as long as its greatest transverse width, greatest width one and a quarter times least width of eighth sternite, slightly tapered posteriorly; spatulate processes shorter, equal in length to less than half width of tergite at that point; second process on each side posterior to spatulate processes, subpyramidal and hairy.

FEMALE (Text-fig. 111). Preostial sternite with spinose patch much reduced in size. Ductus bursae twisted through 180°; anterior margin of ostium more strongly convex. Dorsal ovipositor lobes better developed, raised along mid-dorsal line and produced further posteriorly; medial emargination more pronounced.

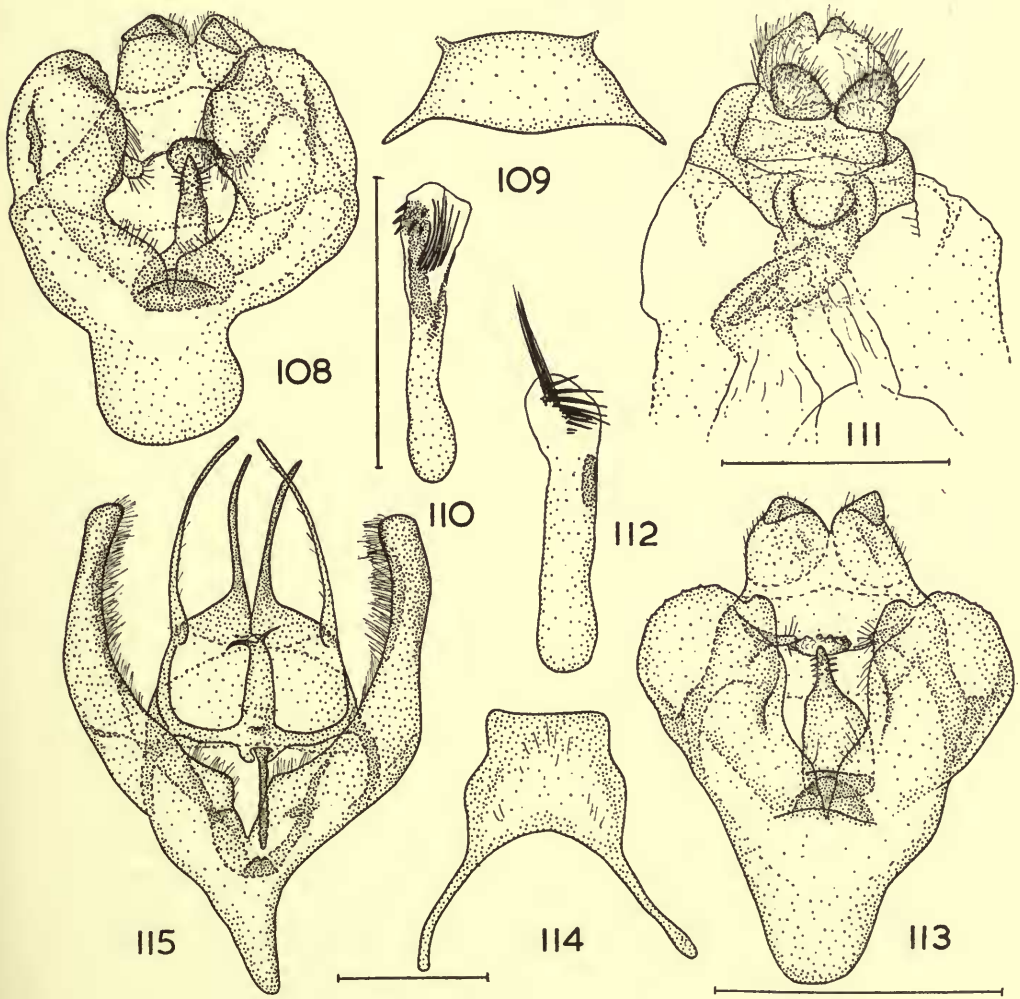
DIAGNOSIS. Distinguished from *postica* by the absence of a subterminal fasciae on the upperside of the hind wing.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 1 ♂, West Java, Perbawatie, Mt. Gede, 4–4,500 ft., i.1938; 1 ♂, W. Sumatra, Lebong Tandai, 1920–1923, C. J. Brooks; 1 ♀, S.W. Sumatra, Lebong Sandai, Benkoelen; 1 ♀, Singapore, Cayanagh, Dec.1915, V. K. Coll; 1 ♀, Sarawak, Bidi, 1907–1908, C. J. Brooks. RIJKSMUSEUM VAN NATUURLIJKE HISTORIE, LEIDEN: 1♂, Java occ., Sindanglaya, 1881; 1 ♀, W. Java, Buitenz., 1894.

Tridrepana argentistriga brevilinea ssp. n.

TYPE. Holotype male, S.W. Celebes, G. Lampobattang, Parang-bobo Goa, 5,000 ft., May 1938, J. P. A. Kalis ; Drepanidae genitalia slide no. 422.

DESCRIPTION. MALE (Pl. 3, fig. 3). 29·9, 29·8–30·0 mm. (2). As for nominate race with following differences. Medial shade on upperside of fore wing confined to narrow area immediately proximal to postmedial, but extending to subterminal



FIGS. 108–110. *Tridrepana argentistriga argentistriga* Warren, male. 108. Genitalia. 109. Eighth sternite. 110. Aedeagus.

FIG. 111. *T. a. argentistriga* Warren, female, ventral view of genitalia.

FIGS. 112 and 113. *T. a. brevilinea* ssp. n., holotype male. 112. Aedeagus. 113. Genitalia.

FIGS. 114 and 115. *T. rectifascia* sp. n. 114. Eighth sternite. 115. Genitalia.

near costa ; subterminal only developed anterior to M_2, most strongly marked near apex ; wing lustrous except for narrow band extending immediately proximal to subterminal anteriorly to just proximal to tornus. Hind wing with postmedial parallel to outer margin ; wing lustrous except for narrow band situated parallel to outer margin and mid-way between it and postmedial, and narrow area round posterodistal spot. Underside of fore wing with faintly marked postmedial ; hind wing unmarked.

GENITALIA : MALE. (Text-figs. 112, 113). As for nominate race but with following differences. Apex of valve with small ventral bulge. Posterior scobinate part of gnathus transversely elongate. Armature of vesica strikingly different.

FEMALE. Not known.

DIAGNOSIS. Distinguished from the nominate race by the poorly developed subterminal on the upperside of the fore wing, and the distribution of lustrous scales on both wings.

DISTRIBUTION. W. and S.W. Celebes.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : 1 ♂, W. Celebes, Paloe, Koelawi, 3,100 ft., March 1937, J. P. A. Kalis.

Tridrepana rectifascia sp. n.

TYPE. Holotype male, Mindanao, Lanao, Kolambugan plains, 20 June 1914, A. E. Wileman ; Drepanidae genitalia slide no. 423.

DESCRIPTION : MALE (Pl. 3, fig. 4). 34·4, 33·0–35·8 mm. (2). Outer surface of palp, and head between and posterior to antennae O–14–11° ; head anterior to antennae OOS–6–12°, to OY–19–12° above labrum ; antenna OY–18/19–12° ; longest antennal pectination just shorter than greatest diameter of eye.

Thorax with narrow whitish anterior border ; rest of thorax and abdomen OY–18/19–12° above, OY–19–12° beneath. Fore wing moderately falcate apically ; outer margin slightly convex. Venation of fore wing as for *albonotata* ; ground colour of upperside as for thorax ; costa irrorated with O–9–11° ; trace of antemedial ; postmedial strongly marked, O–9–11° ; shape and position of both medial fasciae as for *postica* ; well marked, white mid-cell spot and discocellular spot ; subterminal well marked, OSS–3–12°, consisting of interneural dashes posteriorly, markings enlarged between apex and M_2 and edged with whitish scales distally ; marginal shade between anterior part of subterminal and outer margin from apex to mid-way between M_2 and M_3, O–9–11° ; fringe bordering shade similarly coloured. Wing lustrous except for circular area round each cell spot, narrow area between subterminal and postmedial, and area distal to subterminal. Hind wing venation as for *albonotata* ; colour of markings as for fore wing ; antemedial strongly marked, continuous with postmedial of fore wing, straight, as for *postica* ; small posterodistal spot ; postmedial similar to *postica* but parallel to outer margin, less strongly marked than antemedial ; subterminal of minute interneural dashes. Underside of both wings as for thorax. Fore wing with trace of anterior part of postmedial and subterminal, and marginal shade ; posterior part of postmedial shows through faintly from upperside ; small, ovate (sensory ?) patch of dark, raised scales placed

obliquely at base of wing between Cu_2 and 2A. Frenulum minutely but distinctly clavate. Underside of hind wing without markings ; area of elongate scales in cell, and area of short bristly scales between cell and inner margin.

GENITALIA : MALE (Text-figs. 114, 115). Saccus moderately long, tapered. Valve long, slightly arcuate, apically truncate. Anellus forming flattened band on each side of base of aedeagus ; bands fuse dorsally to form rounded, posteriorly directed plate, minutely emarginate posteromedially. Medial part of gnathus produced posteriorly as free apically bifurcate process, and anteriorly as heavily sclerotized, dorsoventrally flattened process terminating close to posterior margin of anellus ; lateral arms well developed. Socius long and slender. Uncus bifurcate nearly to base into pair of long, slender, down-curved arms. Length of sclerotized part of aedeagus five-sixths length of ventral margin of valve ; outer cornutus about one-third length of inner cornutus ; vesica minutely spinose, longest spine equal to half greatest width of outer cornutus. Eighth sternite well developed ; truncate posteriorly. Eighth tergite about three times as long as its least transverse width, just wider anteriorly than least width of eighth sternite, gradually tapered to three-quarters of its length then widened to posterior margin ; apodemes equal in length to one-third length of anterior margin of tergite.

FEMALE. Not known.

DIAGNOSIS. Distinguished from *postica* and *argentistriga* by the more strongly marked subterminal on the upperside of the fore wing, the presence of a dark, (sensory ?) patch near the base of the underside of the fore wing, and the presence of a distinctly clavate frenulum.

The male genitalia is quite different from that of *postica* and *argentistriga*.

DISCUSSION. This species is particularly interesting in two respects : firstly in the possession of a dark, (sensory ?) patch of scales at the base of the underside of the fore wing (cf. *microcrocea*, *crocea* etc.) ; secondly in the similarity of the colour pattern to that of *postica* in contrast with the marked dissimilarity in the male genitalia between the two species.

DISTRIBUTION. Philippines (Mindanao).

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : 1 ♂, Philippines, Mindanao, Kolambuzau, Aug.–Sept. 22.

Species group *sadana* Moore

The group, which contains nine species, is easily distinguished from the remaining groups in nearly all cases by the following combination of characters : upperside of fore wing with five medial spots (including two accessory spots posterior to posterodistal spot) ; absence of medial shade ; presence, usually, of double post-medial (at least posteriorly) on upperside of both wings ; absence of dark patch of thickened (sensory ?) scales at base of cell on underside of fore wing in male. The general structure of the male genitalia is remarkably uniform, although it is usually possible to separate the species on male genitalic characters : the relatively smaller size of the whole of the external genitalic apparatus compared with the wing span is obvious from the drawings.

rubromarginata Leech is polytypic,

Tridrepana adelpha Swinhoe

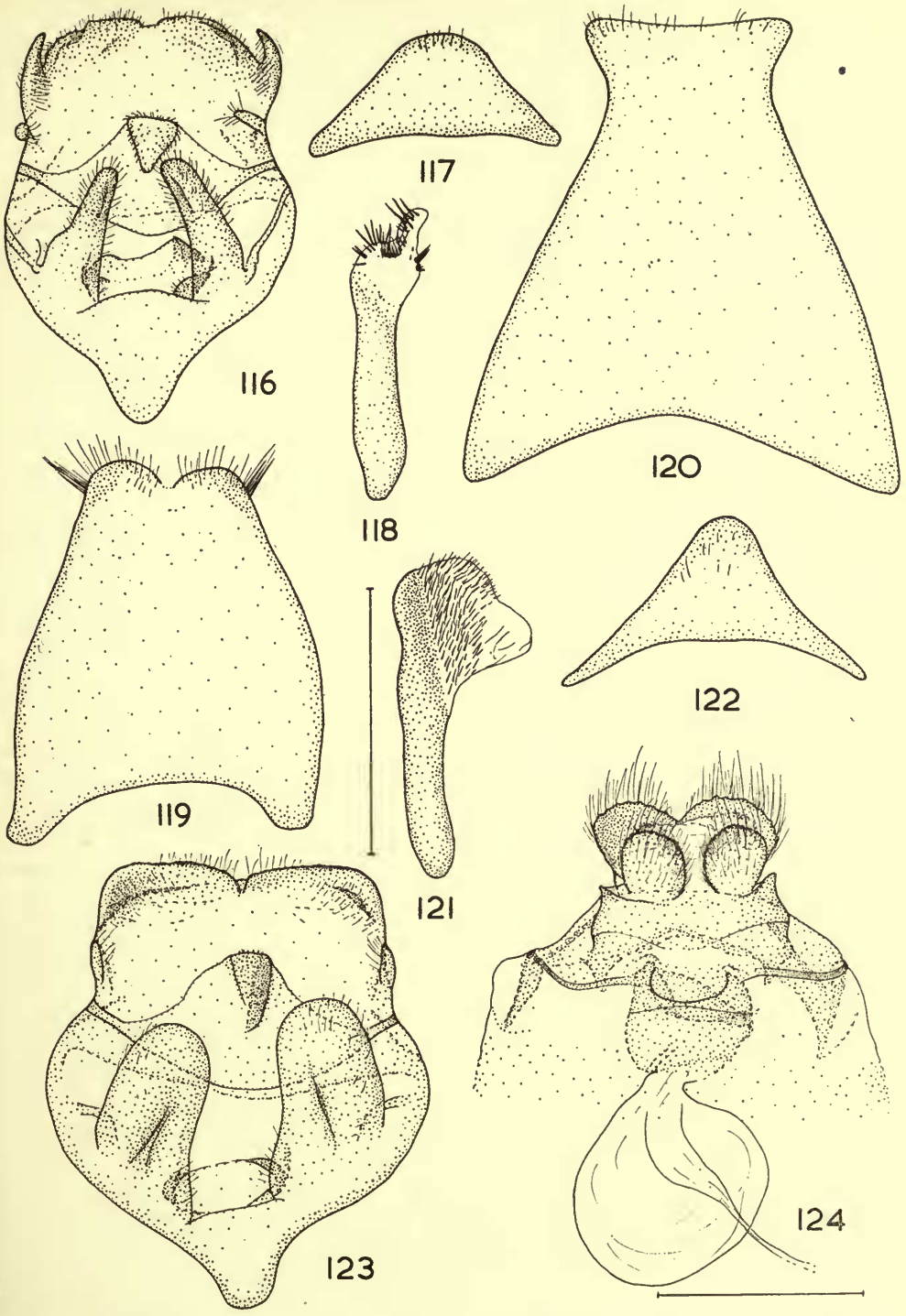
Tridrepana adelpha Swinhoe, 1905, *Ann. Mag. nat. Hist.* (7) **16** : 620.
Iridrepana adelpha Swinhoe, Warren, 1922, *Gross-Schmetterl.* **10** : 466.
Tridrepana adelpha Swinhoe, Gaede, 1931, *Lepid. Cat.* **49** : 28.
Drepana sadana Moore, Hampson, 1910, *J. Bombay nat. Hist. Soc.* (1) **20** : 98.

TYPE. Holotype male, Khasis, Nat. Coll.; Drepanidae genitalia slide no. 426.

DESCRIPTION : MALE (Pl. 3, fig. 6). 32·5, 29·8–25·6 mm. (13). Head immediately anterior to antennae O–11–11° ; rest of head, outer surface of palp and antenna OOY–18–10° ; longest antennal pectination equal to one and a half times greatest diameter of eye.

Thorax with narrow whitish anterior border, rest of thorax and abdomen OY–18/19–12° above, OOY–19–11° beneath. Fore wing strongly falcate apically, outer margin slightly convex ; venation as for *albonotata*, but with R_1 usually from half areole. Ground colour of fore wing as for thorax but OOY–18–12° anterior to cell ; antemedial represented by short dash near base of cell, lunulate dash between Cu_1 and Cu_2, and spot at one-quarter length of inner margin ; small, dark mid-cell spot and similar discocellular spot ; slightly larger, white posterodistal spot ; conspicuous rectangular spot placed obliquely posterior to latter spot between M_3 and Cu_2, similar spot between Cu_1 and Cu_2, both SO/OOS–4–9° ; posterodistal spot and spots posterior to it surrounded by area of SO/OOS–12–3° ; postmedial from three-quarters costa, formed by interneural dashes between costa and M_2, lunulate between M_2 and Cu_2 ; weakly marked, diffuse dash just distal to postmedial between Cu_2 and 2A (may represent distal postmedial line) ; subterminal only developed between R_5 and M_3, sometimes only single spot present between M_1 and M_2 ; marginal shade between anterior markings of subterminal and outer margin from apex to mid-way between M_3 and Cu_1, SO/OOS–12–3° ; fringe bordering marginal shade SO/OOS–4–9°, but with light grey edge ; costa irrorated with greyish-brown scales proximally. Ground colour of hind wing as for fore wing ; trace of antemedial from one-third inner margin ; mid-cell spot absent ; pattern of remaining medial spots as for fore wing, but slightly lighter in colour and with most posterior spot sometimes absent and greyish-brown area sometimes not extending to discocellular spot ; postmedial from two-thirds inner margin, lunulate between M_3 and Cu_2 ; trace of distal postmedial line between Cu_2 and 2A ; subterminal absent. Both wings non-lustrous. Underside of both wings OY–19–10°, fore wing slightly darker anterior to cell. Fore wing with trace of anterior part of distal postmedial line and medial spots ; other markings of upperside show through faintly ; outer margin fringe as for upperside. Hind wing with trace of medial spots ; markings of upperside show through faintly.

GENITALIA : MALE (Text-figs. 116–119). Saccus short. Valve small, digitate, outer surface longitudinally sulcate close to ventral margin. Anellus forming complete ring round base of aedeagus ; produced posteriorly for short distance on either side of medial line as weakly sclerotised plate. Lateral arms of gnathus slender laterally, broadened medially into dorsoventrally flattened plate with raised, minutely spinose pad posteriorly. Socius moderately long. Uncus with small



FIGS. 116–119. *Tridrepana adelpha* Swinhoe, holotype male. 116. Genitalia. 117. Eighth sternite. 118. Aedeagus. 119. Eighth tergite.

FIGS. 120–123. *T. finita* sp. n., holotype male. 120. Eighth tergite. 121. Aedeagus. 122. Eighth sternite. 123. Genitalia.

FIG. 124. *T. finita* sp. n., allotype female, genitalia.

medial emargination; produced laterally on each side as stout, falcate process. Aedeagus slightly dilated apically; vesica with distinctive spiny armature. Eighth sternite evenly rounded posteriorly; very slightly concave laterally; apodemes short. Eighth tergite bilobed posteriorly and fringed with long, stout hairs.

FEMALE. Not known.

DIAGNOSIS. Distinguished from its closest apparent relative *finita* by the more strongly falcate fore wing, and the larger greyish brown area surrounding the posterior medial spots. In the genitalia the shape of the uncus, and the less numerous but longer vesical spines provide similarly diagnostic characters.

DISTRIBUTION. N.E. India.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 18 ♂, from type locality; 3 ♂, Cherrapungi, April, Nov. 1893, Jan. 1894. RIJKSMUSEUM VAN NATUURLIJKE HISTORIE, LEIDEN: 1 ♂, Assam, Hamilton.

Tridrepana finita sp. n.

TYPE. Holotype male, China, Provinz Nord-Yuennan, Li-kiang, 9.vii.1934, H. Höne; Drepanidae genitalia slide no. 432 (in Zoologisches Forschungsinstitut u. Museum A. Koenig, Bonn).

DESCRIPTION: MALE (Pl. 3, fig. 7). 42·7, 38·8–47·4 mm. (7). Head posterior to antennae, outer surface of palp, and antenna OOY–18–12°; head OOS–6–12° between and anterior to antennae, to OOY–16–11° above labrum; antennal shape as for *adelpha*.

Thorax with narrow, whitish anterior border; rest of thorax and abdomen OOY–18–12° above, OOY–19–10° beneath. Fore wing moderately falcate; outer margin slightly convex. Venation of both wings as for *adelpha*. Ground colour of upperside of both wings OOY–18–12°. Colour pattern of upperside of fore wings as for *adelpha* but with following differences: both medial fasciae, and all medial spots except for posterodistal spot darker; greyish-brown area surrounding posterior medial spots relatively smaller; anterior part of subterminal much more strongly marked; marginal shade not extending posterior to M_3. Upperside of hind wing as for *adelpha* but with following differences: medial fasciae darker, postmedial more strongly lunulate at middle; only trace of most posterior medial spot; greyish-brown area surrounding posterior medial spots not extending to discocellular spot. Both wings non-lustrous. Underside of both wings OOY–18/19–12°; fore wing irrorated with dark brown near base, especially at costa; medial spots, anterior part of distal postmedial (and sometimes posterior part of proximal line) and anterior part of subterminal well marked in fore wing. Medial spots, postmedial, and subterminal usually moderately well marked in hind wing.

FEMALE. 48·8 mm. (1). As for male but with following differences. Longest antennal pectination one and a quarter times greatest diameter of eye; spot near end of cell between Cu_1 and Cu_2 not joined to spot between M_3 and Cu_1.

GENITALIA: MALE (Text-figs. 120–123). Saccus small. Valve small, digitate; longitudinal sulcus on outer surface. Anellus as for *adelpha*. Gnathus similar to *adelpha*, but with medial spinose pad more strongly evaginate. Uncus emarginate

medially, slightly produced posterolaterally. Aedeagus slightly dilated apically; base of vesica densely spinose. Eighth sternite similar to *adelpha*, but narrower posteriorly and bluntly pointed. Eighth tergite well developed.

FEMALE (Text-fig. 124). Bursa copulatrix without ornamentation; ductus bursae short, broadest and heavily sclerotized posteriorly. Ostial segment forming narrow band lateral to ostium. Postostial segment forming hood-like lip lateral to each ventral ovipositor lobe. Ventral ovipositor lobes papillate and densely hairy. Dorsal lobes united to form broad, bilobed hood-like structure; papillate and hairy posteriorly.

DIAGNOSIS. Distinguished from *adelpha* by the larger size and the less strongly falcate fore wing. The male genitalia is similarly diagnostic.

DISTRIBUTION. W. China.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 1 ♂ paratype, Thibet, Tchang-Kou, Chausseurs Chinois, Été 1892; 1 ♂, W. China, Tsé kou, 1900, R. P. J. Dubernard. NATURHISTORISCHES MUSEUM, VIENNA: 1 ♀ paratype, W. China, Ta-tsien-lou, 1910, Chausseurs Indigènes. ZOOLOGISCHES FORSCHUNGSINSTITUT U. MUSEUM A. KEONIG, BONN: allotype ♀ from type locality, 13.vii.1934, H. Höne, Drepanidae genitalia slide no.433; 2 ♂ paratypes, from type locality, 25.6, 26.vii.1935, H. Höne; 1 ♂ paratype, Nord-Yuennan, A-tun tse, ca. 4,500 m., 7.vii.1936, H. Höne.

Tridrepana sadana (Moore)

Drepana sadana Moore, 1865, *Proc. zool. Soc. Lond.* **1865**: 817.
Drepana sadana Moore, Cotes and Swinhoe, 1887, *Cat. Moths. India* p. 184.
Drepana sadana Moore, Hampson, 1893, *Fauna Brit. India Moths* **1**: 341.
Platypteryx sadana (Moore), Kirby, 1892, *Syn. Cat. Lep. Het.* p. 733.
Tridrepana sadana (Moore), Swinhoe, 1895, *Trans. R. ent. Soc. Lond.* **1895**: 4.
Drepana sadana Moore, Dudgeon, 1899, *J. Bombay nat. Hist. Soc.* (4) **12**: 655.
Drepana sadana Moore, Hampson, 1910, *J. Bombay nat. Hist. Soc.* (1) **20**: 98.
Iridrepana sadana (Moore), Warren, 1922, *Gross-Schmetterl.* **10**: 466.
Tridrepana adelpha matronalis Bryk, 1943, *Ark. Zool.* **34**A, No. 13: 16. (Type in Naturhistoriska Riksmuseum, Stockholm.). (SYN. NOV.)

TYPE. Holotype male, Darjeeling. Not examined. Deposited in collection of A. E. Russel which is presumed to be lost (Horn and Kahle, 1935–1937).

DESCRIPTION: MALE (Pl. 3, fig. 8). 34·9, 32·4–38·4 mm. (7). Head OOS–5–12° immediately anterior to antennae; palp, antenna and rest of head OOY–17–8°; antennal shape as for *adelpha*.

Thorax with narrow whitish anterior border; rest of thorax and abdomen OOY–17/18–12°. Shape of fore wing and venation of both wings as for *adelpha*. Ground colour of upperside of fore wing as for thorax; wing from just proximal to postmedial, to subterminal, O–17–6°; costa irrorated with greyish-brown scales. Fore wing colour pattern as for *adelpha* but with following differences: mid-cell spot and discocellular spot edged with OOS–8–6°; spot at end of cell between M_3 and Cu_1, and between Cu_1 and Cu_2 not obliquely elongate; anterior part of proximal postmedial line more strongly marked, vestige of distal postmedial line edged distally

with lunulate line of lustrous whitish scales ; anterior part of subterminal represented by continuous lunulate line, OOS/O–8–9°, edged distally, from near apex to tornus, with line of lustrous whitish scales. Ground colour of hind wing as for thorax ; trace of posterior part of antemedial ; discocellular spot sometimes well marked, dark ; small dark posterodistal spot, sometimes with whitish centre ; small dark spot usually present posterior to latter ; further spot between and near bases of Cu_1 and Cu_2 ; posterior medial spots usually with trace of surrounding greyish-brown area ; proximal postmedial line as for *adelpha* but nearly parallel to outer margin ; distal postmedial line as for *adelpha* ; subterminal absent ; wing non-lustrous. Underside of fore wing OOY–17–9° anteriorly, lighter posteriorly, irrorated with dark brown at base ; trace of antemedial ; medial spots except for mid-cell spot moderately well marked ; anterior part of distal postmedial line well marked as interneural spots ; weakly marked marginal shade along anterior part of outer margin ; other markings may show through faintly from upperside. Ground colour of hind wing as for fore wing ; trace of antemedial ; discocellular and mid-cell spot moderately well marked, other spots weakly marked ; proximal postmedial line usually well marked.

FEMALE. 37·6, 35·0–43·4 mm. (7). As for male but with following differences. Longest antennal pectination about three-quarters greatest diameter of eye. Ground colour and markings of both wings slightly lighter ; lustrous bands near outer margin of upperside of fore wing less distinctly marked, proximal band distal to distal postmedial line sometimes nearly obsolete.

GENITALIA : MALE. (Text-figs. 125, 126). Saccus very small. Valve short, with longitudinal sulcus. Anellus as for *adelpha*. Posteromedial pad of gnathus variable in size but usually broader transversely than in *adelpha*. Socius moderately long. Uncus lobes distinctly produced posterolaterally. Aedeagus slightly dilated apically ; vesica without armature. Eighth sternite similar to *adelpha*, but with posterior margin almost straight medially. Eighth tergite similar to *adelpha* but with posterior lobes less broad, not meeting medially.

FEMALE (Text-fig. 127). Bursa copulatrix without ornamentation. Ductus bursae membranous. Postostial segment without lateral lips. Ventral ovipositor lobes papillate and hairy ; dorsal lobes forming hood-like structure (cf. *finita*), but more evenly rounded marginally.

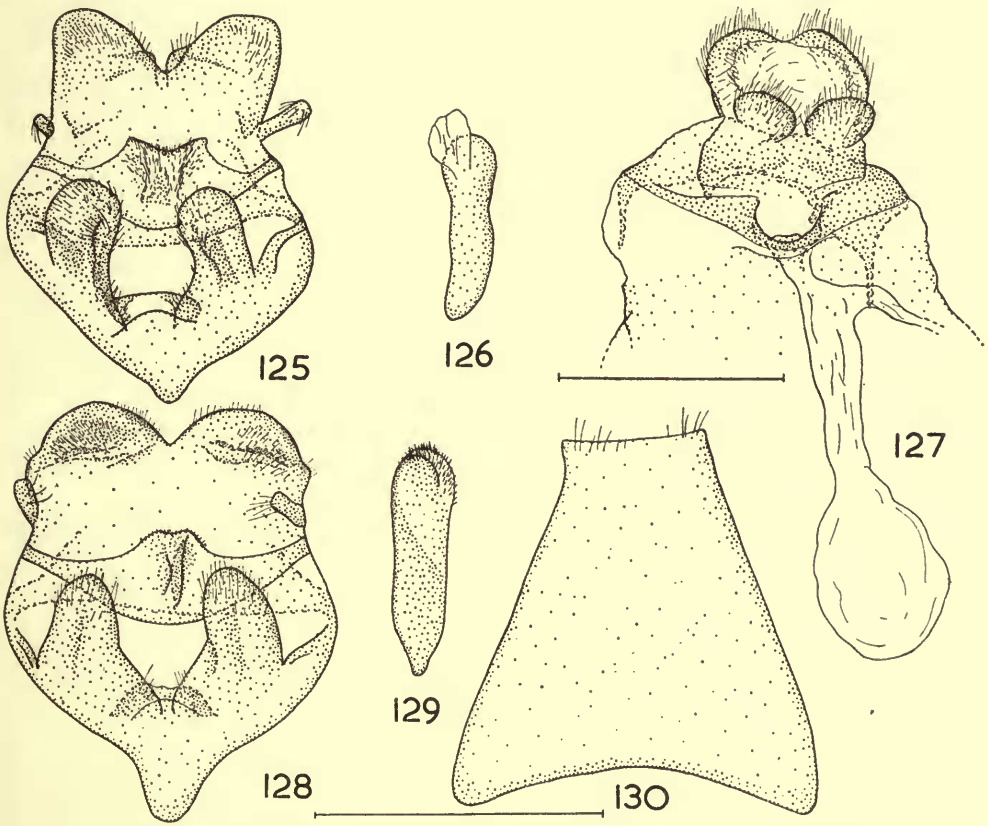
DIAGNOSIS. Distinguished from *adelpha* by the light brown ground colour of the apical part of the upperside of the fore wing, and band of whitish lustrous scales bordering posterior vestige of distal postmedial line and subterminal ; also by the almost complete absence of a shade surrounding posterior medial spots on the upperside of the hind wing.

DISCUSSION. Although the holotype has not been examined, there can be little doubt as to the identity of the species. The British Museum (Nat. Hist.) possesses a male from the Moore Collection collected in N. India and with a determination label " *Drepana sadana* " in Moore's handwriting.

DISTRIBUTION. Sikkim, N. India and N.E. Burma.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : 1 ♂, 1 ♀, from type locality ; 1 ♀, Gopaldhara, Darjeeling, 3,440–5,800 ft., H. Stevens ; 1 ♂, Sikkim, Stgr.; 2 ♀, Sikkim, 31.v, 3.vii.1889, J. G. Pilcher ; 1 ♀, Sikkim, vii.1909, F. Moller ;

1 ♀, Kumaon, 28.vi.93, J. G. Pilcher; 1 ♂, N. India, Moore Coll; 1 ♀, Collection H. J. Elwes. NATURHISTORISKA RIKSMUSEUM, STOCKHOLM: 2 ♂, 1 ♀, N. E. Burma, Kambaiti, 7,000 ft., 10/4, 17.v.1934, R. Malaise (including holotype and allotype of *matronalis* Bryk). NATURHISTORISCHES MUSEUM, VIENNA: 1 ♂, Sikkim, Katapahar, Gebauer.



FIGS. 125 and 126. *Tridrepana sadana* (Moore), male. 125. Genitalia. 126. Aedeagus.

FIG. 127. *T. sadana* (Moore), female, genitalia.

FIGS. 128–130. *T. aurorina* Bryk, holotype male. 128. Genitalia. 129. Aedeagus. 130. Eighth tergite.

Tridrepana aurorina Bryk (stat. nov.)

Tridrepana glaciata aurorina Bryk, 1943, *Ark. Zool.* **34**A, No. 13 : 15. (fig.).

TYPE. Holotype male, N.E. Burma, Kambaiti, 7,000 ft., 5/6 R. Malaise; Drepanidae genitalia slide no. 435 (in Naturhistoriska Riksmuseum, Stockholm).

DESCRIPTION: MALE. 34·7, 31·2–36·2 mm. (4). Palp, antenna and head posterior to antennae OOY–17/18–12°; head between and anterior to antennae

OOS–6–12°, to OOY–17–9° above labrum. Longest antennal pectination equal to about one and two-thirds times greatest diameter of eye.

Thorax and abdomen OOY–17/18–12° above, OOY–19–11° beneath. Fore wing moderately falcate, outer margin straight; venation of both wings as for *adelpha*. Ground colour of upperside of fore wing as for thorax but irrorated with light reddish brown distally (O–14–12°); trace of antemedial, mid-cell spot and discocellular spot; whitish posterodistal spot, well marked; trace of spots posterior to latter spot between M_3 and Cu_1, and between Cu_1 and Cu_2; trace of proximal line of postmedial at costa and inner margin; indication of distal postmedial line posteriorly, edged distally with lunulate, lustrous, whitish line (cf. *sadana*); trace of subterminal, faintly edged distally with lustrous, whitish scales (cf. *sadana*); fringe from apex to Cu_2 O–3–6°, tipped with light grey. Upperside of hind wing OOY–19–10° from base to just distal to postmedial, rest of wing as for fore wing; trace of antemedial, discocellular spot and whitish posterodistal spot; posterior part of proximal postmedial line well marked, trace of posterior part of distal line; no trace of subterminal. Hind wing moderately lustrous from base to just distal to postmedial; lustrous scaling in fore wing confined to whitish bands bordering distal postmedial line and subterminal. Underside of fore wing OOY–18–12° anteriorly, slightly darker distally and basally, and lighter posteriorly; trace of discocellular spot, posterodistal spot and anterior part of distal postmedial line; indication of subterminal and marginal shade; fringe as for upperside. Hind wing OOY–17–8°; trace of discocellular spot and proximal line of postmedial.

GENITALIA: MALE (Text-figs. 128–130). Saccus small. Valve small; ventral margin of valves nearly touching each other medially at base. Anellus as for *adelpha*. Minutely spinose part of gnathus strongly evaginate medially, slightly constricted at middle. Socius moderately long. Lobes of uncus uniformly rounded posteriorly. Aedeagus not dilated apically, vesica densely spinose. Eighth sternite similar to *adelpha* but uniformly rounded, not concave laterally. Eighth tergite not bilobed posteriorly (see figure).

FEMALE. Not known.

DIAGNOSIS. Distinguished from *sadana* by the faintly marked colour pattern and the absence of any dark brown scales. In the genitalia the presence of vesical spines separates the species from *sadana*.

DISTRIBUTION. All the material examined was taken in N.E. Burma.

MATERIAL EXAMINED. NATURHISTORISKA RIKSMUSEUM, STOCKHOLM: 2 ♂ paratypes, from type locality, 7–9/6, 1934, Malaise; 1 ♂, from type locality, 8/6, R. Malaise.

Tridrepana rubromarginata rubromarginata (Leech)

Drepana rubromarginata Leech, 1898, *Trans. R. ent. Soc. Lond.* **1898**: 365.
Drepana rubromarbinata Leech, Hampson, 1910, *J. Bombay nat. Hist. Soc.* (1) **20**: 98.
Drepana rubromarginata Leech, Strand, 1911, *Gross-Schmetterl.* **2**: 201. (fig.)
Iridrepana rubromarginata (Leech), Warren, 1922, *Gross-Schmetterl.* **10**: 465.
Drepana rubromarginata Leech, Gaede, 1931, *Lepid. Cat.* **49**: 30.

TYPE. Holotype male, W. China, Pu-tsu-fong, 9,820 ft., June and July 1890, Native coll. ; Drepanidae genitalia slide no.438.

DESCRIPTION. MALE. 33·3, 31·6–34·8 mm. (4). Antenna and outer surface of palp OOY–18–11° ; longest antennal pectination twice greatest diameter of eye ; head OOY–16–10° posterior to antennae, OOS–8–6° between and anteiior to antennae to OOY–18–11° above labrum.

Thorax and abdomen OOY–18–11° above, OOY–18–8° beneath. Venation of both wings as for *albonotata* but with following small differences in fore wing : R_1 sometimes from just distal to half length of areole ; R_2 from just distal to end of areole ; M_1 sometimes not stalked with R_5. Upperside of both wings as for thorax, but with fore wing darker anterior to cell and irrorated with brownish yellow distally. Costa of fore wing irrorated with darker scales as in *sadana* ; antemedial as for *adelpha*, but darker and more strongly marked ; dark mid-cell and discocellular spot ; whitish posterodistal spot edged with dark scales ; large dark spot between M_3 and Cu_1 immediately posterior to posterodistal spot and contiguous with it ; further dark spot between Cu_1 and Cu_2, less strongly marked than latter ; proximal line of postmedial as for *sadana*, but strongly lunulate especially between M_3 and Cu_2 ; distal line of postmedial well marked as broad diffuse band of OOS–6–9°, from M_1 to inner margin ; subterminal strongly marked, OOS–1–4°, from R_5 to 2A, lunulate, interrupted at veins, anterior markings indistinctly edged distally with light greyish scales ; marginal shade between subterminal and outer margin from apex to near inner margin OOS–8–6° ; fringe of outer margin from apex to near tornus as for *sadana*. Wing non-lustrous except for light grey edge to anterior subterminal markings. Hind wing similar to *sadana* but with anterior part of distal postmedial line moderately well developed as diffuse interneural spots. Ground colour of underside of both wings as for *sadana*. Fore wing with trace of antemedial and mid-cell spot ; discocellular and posterodistal spot well marked ; spot posterior to latter spot also well marked ; anterior part of distal postmedial line well marked ; anterior part of subterminal and marginal shade moderately well marked ; fringe as for upperside ; other markings show through faintly. Antemedial fascia and medial spots of hind wing as for *sadana* ; distal postmedial line well marked ; subterminal moderately well marked anterior to M_3 as diffuse interneural dashes ; other markings show through faintly.

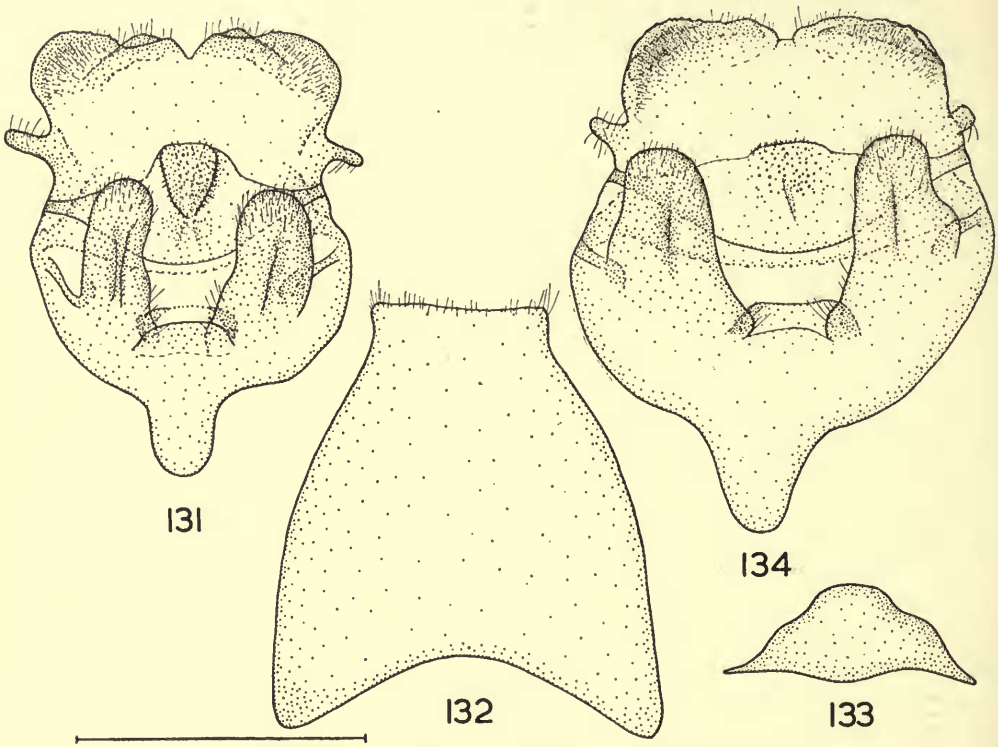
GENITALIA : MALE (Text-figs. 131–133). Saccus as for *adelpha* but more distinctly differentiated from vinculum. Valve and anellus as for *sadana*. Medial spiny part of gnathus subtriangular and strongly evaginated ; scobinate area extending anteriorly from apex of triangle. Socius small. Uncus as in figure. Aedeagus similar to *finita* but with less densely spinose vesica ; longest spine equal in length to one-third diameter at middle of aedeagus. Posterior margin of eighth sternite inflexed laterally, convex medially. Eighth tergite as in figure.

FEMALE. Not known.

DIAGNOSIS. Easily distinguished from its closest apparent relative, *sadana*, by the colour pattern of the distal half of the upperside of the fore wing and presence of a distal postmedial line from near costa to inner margin.

MATERIAL EXAMINED. ZOOLOGISCHES FORSCHUNGSINSTITUT U. MUSEUM A.

KOENIG : 3 ♂, China, Provinz Nord-Yunnan, Li-kiang, 29.vii.1935, 2, 11.viii.1935, H. Höne.



FIGS. 131–133. *Tridrepana rubromarginata rubromarginata* (Leech), holotype male. 131. Genitalia. 132. Eighth tergite. 133. Eighth sternite.
FIG. 134. *T. r. indica* ssp. n., holotype male, genitalia.

Tridrepana rubromarginata indica ssp. n.

Drepana rubromarginata Leech, Hampson, 1910, *J. Bombay nat. Hist. Soc.* (1) **20** : 98
Drepana rubromarginata Leech, Strand, 1911, *Gross-Schmetterl.* **2** : 201.
Iridrepana rubromarginata (Leech), Warren, 1922, *Gross-Schmetterl.* **10** : 465.
Tridrepana rubromarginata (Leech), Gaede, 1931, *Lepid. Cat.* **49** : 30.

TYPE. Holotype male, Sikkim, Tonglo, 10,000 ft., July 1886, H. J. Elwes; Drepanidae genitalia slide no. 440.

DESCRIPTION : MALE (Pl. 3, fig. 5). 40·9, 39·0–42·4 mm. (6). As for nominate race but with following differences. Much larger. Transverse fasciae on upperside of both wings less distinctly marked. Upperside of fore wing with large diffuse spot near base between cell and 2A, colour as for antemedial; spots posterior to posterodistal spot equally strongly marked; area between proximal and distal postmedial lines irrorated with O–11–12°. Hind wing with more strongly marked medial spots. Underside of fore wing with dark spot posterior to posterodistal

spot larger ; no trace of postmedial ; subterminal fascia and marginal shade weakly marked. Hind wing with no trace of postmedial or subterminal.

GENITALIA : MALE (Text-fig. 134). As for nominate race but with following differences : shape of saccus as for *adelpha* ; posterior part of gnathus less strongly evaginated, with shorter spines, and without scobinate area anteriorly ; uncus differently shaped.

FEMALE. Not known.

DIAGNOSIS. Separated from the nominate race by the size, the less distinctly marked transverse fasciae on the upperside of the fore wing, the more strongly marked medial spots and the dark spot proximal to the antemedial fascia.

DISTRIBUTION. Sikkim, Bhutan and Nepal.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : 1 ♂ paratype, with same data as holotype ; 1 ♂ paratype, Bhutan ; 2 ♂ paratypes, – – – – – of Nepaul, Phallalong, 12,000 ft., July 1905.

Tridrepana thermopasta (Hampson) (comb. nov.)

Drepana thermopasta Hampson, 1914, *Ann. Mag. nat. Hist.* (8) **14** : 106.
Drepana thermopasta Hampson, Gaede, 1932, *Gross-Schmetterl. Suppl.* **2** : 168.

TYPE. Holotype male, W. China, Leech Coll.; Drepanidae genitalia slide no. 305.

DESCRIPTION : MALE (Pl. 3, fig. 9). 14·7 mm. (1). (Much of the scaling badly worn and coloration therefore sometimes doubtful.) Antenna, palp and head posterior to antennae OOY–16–11° ; head between and immediately anterior to antennae O–4–10°. Longest antennal pectination equal to just over twice greatest diameter of eye.

Colour of thorax and abdomen doubtful. Ground colour of upperside of fore wing OOY–16–10°, conspicuously irrorated with O–7–11° ; trace of antemedial, discocellular spot, posterior part of postmedial, and more distinct trace of anterior part of subterminal. Hind wing ground colour as for fore wing, but less heavily irrorated with dark scales posteriorly and without such irroration anteriorly ; trace of posterior parts of antemedial, proximal and distal postmedial lines, and subterminal. Underside of both wings O–18–12° ; fore wing with trace of anterior part of postmedial (probably distal line) and subterminal ; hind wing unmarked. Wings entirely non-lustrous.

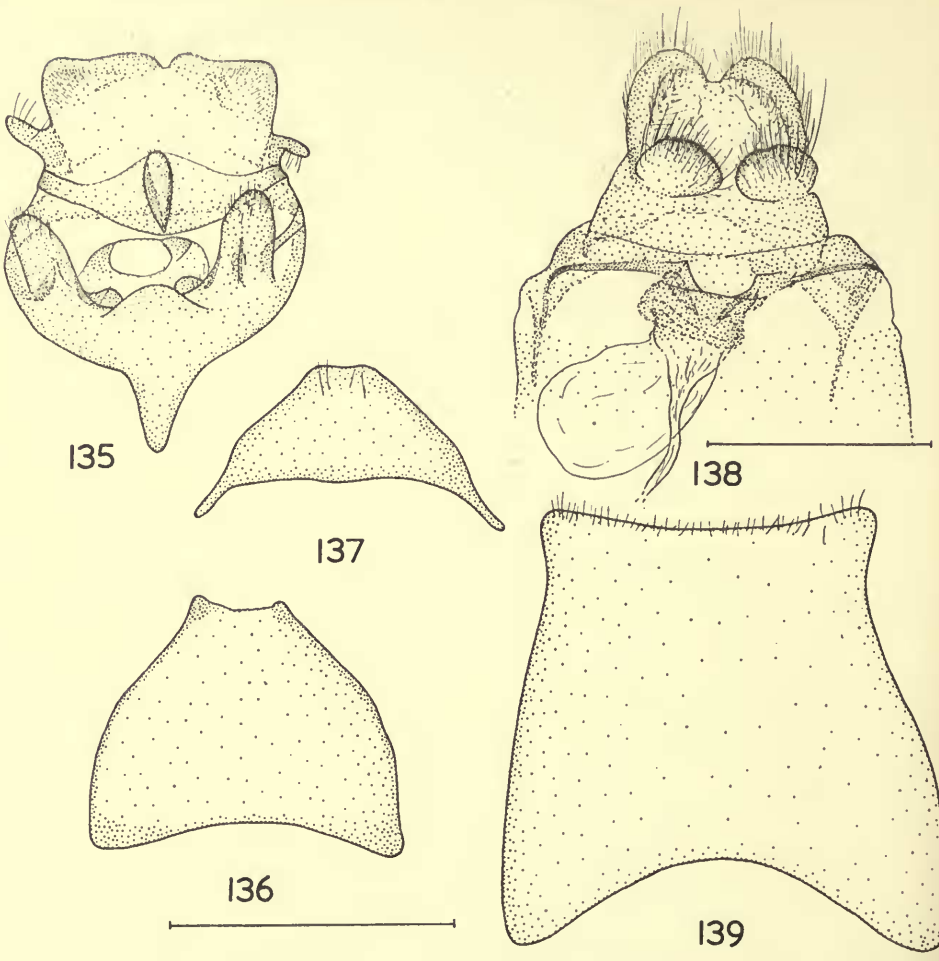
GENITALIA : MALE (Text-figs. 135, 136). As for *rubromarginata rubromarginata* but with saccus tapered, bluntly pointed ; medial part of gnathus minutely spinose, elongate, strongly evaginate ; medial bulge of each lobe of uncus small or absent ; and eighth tergite much shorter (see figure).

FEMALE. Not known.

DIAGNOSIS. Distinguished from the rest of the species group by the irroration of dark scales on the upperside of the wings.

DISTRIBUTION. W. China.

No material other than the holotype was examined.



FIGS. 135 and 136. *Tridrepana thermopasta* (Hampson), holotype male. 135. Genitalia. 136. Eighth tergite.

FIG. 137. *T. maculosa* sp. n., holotype male, eighth sternite.

FIG. 138. *T. fulva* (Hampson), female, genitalia.

FIG. 139. *T. fulva* (Hampson), holotype male, eighth tergite.

Tridrepana maculosa sp. n.

TYPE. Holotype male, China, Provinz Nord-Yuennan, Li-Kiang, 10.vii.1935, H. Höne; Drepanidae genitalia slide no. 442. (in Zoologisches Forschungsinstitut und Museum A. Koenig, Bonn).

DESCRIPTION: MALE (Pl. 3, fig. 10). 43·5, 38·8–46·4 mm. (16). Palp, antenna and head posterior to antennae O–17–10°; head between and anterior to antennae OOS–9–11° to O–15–11° above labrum. Longest antennal pectination equal to twice greatest diameter of eye.

Thorax and abdomen OOY–18–11° above, much lighter beneath. Fore wing weakly falcate, outer margin straight ; venation as for *albonotata* but with R_1 usually from two-thirds areole. Ground colour of both wings as for thorax. Upperside of fore wing and hind wing with all markings proximal to subterminal nearly concolorous, OOS–9/10–2°, except for posterodistal spot. Fore wing with antemedial well marked, interrupted at veins ; mid-cell and discocellular spot large, of equal size ; light grey posterodistal spot, edged with dark scales ; large spot posterior to latter spot and confluent with dark edge of latter, and dark spot near cell between Cu_1 and Cu_2; (latter two spots variable in size) ; proximal postmedial line from just over one-third costa to just over one-half inner margin, interrupted at veins, lunulate posterior to M_3 ; distal postmedial line broader, more strongly lunulate, diverging from proximal line terminally : subterminal consisting of well marked interneural dashes, most strongly marked anteriorly, marking between M_1 and M_2 enlarged ; marginal shade between apex and M_3 OOS/O–13–7°, fringe bordering shade dark grey tipped with whitish. Hind wing with antemedial well marked, interrupted at veins ; mid-cell spot absent, remaining medial spots as for fore wing ; postmedial lines as for fore wing but less distinctly lunulate ; subterminal similar to posterior part of fascia in fore wing, marking between M_1 and M_2 largest. Upperside of both wings non-lustrous or very slightly lustrous. Underside of both wings OOY–18–9°. Fore wing slightly darker anteriorly and irrorated with OOS–9–12° proximally ; discocellular spot well marked, posterodistal spot and spot between M_3 and Cu_2 sometimes present ; trace of anterior part of distal postmedial line ; subterminal well marked from apex to M_3 ; marginal shade and fringe as for upperside ; wing slightly lustrous anteriorly. Hind wing with discocellular spot well marked ; trace of proximal postmedial line and of subterminal from R_5 to M_3 ; other markings show through faintly as in fore wing ; wing slightly lustrous.

FEMALE. 47·3, 45·6–48·2 mm. (6). As for male but with longest antennal pectination equal to greatest diameter of eye.

GENITALIA. As for *finita* but with following differences.

MALE. (Fig. 137). Medial spinose part of gnathus only slightly evaginate ; eighth sternite differently shaped, slightly concave posteriorly.

FEMALE. Dorsal ovipositor lobes more evenly rounded as in *sadana*.

DIAGNOSIS. The combination of the macular colour pattern and the presence of a well developed distal postmedial line and subterminal fascia in both wings distinguishes the species from the rest of the species group.

DISTRIBUTION. W. China.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : 1 ♂ paratype, W. China, Tay-Tou-Ho, 1896. ZOOL. FORSCHUNGSINSTITUT U. MUS. A. KOENIG, BONN : allotype ♀, from type locality, 30·vi.1935, H. Höne, Drepanidae genitalia slide no. 449 ; 12 ♂, 5 ♀ paratypes, from type locality, 21–28.vi, 1–5.vii, 6.viii.1935, H. Höne ; 2 ♂ paratypes, Nord-Yünnan, A-tun-tse, ca. 3,000 m., 1, 3.vii.1937, H. Höne.

Tridrepana fulva (Hampson)

Drepana fulva Hampson, 1893, *Fauna Brit. India Moths* **1** : 342.
Drepana fulva Hampson, Dudgeon, 1899, *J. Bombay nat. Hist. Soc.* (4) **12** : 655.

Iridrepana fulva (Hampson), Warren, 1922, *Gross-Schmetterl.* **10** : 466.
Tridrepana fulva (Hampson), Gaede, 1931, *Lepid. Cat.* **49** : 29.

TYPE. Holotype male, Sikkim, 13,000 ft., 1887 : Drepanidae genitalia slide no. 446.

DESCRIPTION : MALE (Pl. 3, fig. 12). 43·5, 42·8–44·2 mm. (5). Palp, antenna and head posterior to antennae O–13–11° ; head between and anterior to antennae OOS–8–11°, to OOY–19–12° above labrum. Longest antennal pectination equal to two and a half times greatest diameter of eye.

Venation of both wings as for *albonotata*. Fore wing slightly falcate, outer margin straight. Upperside of both wings O/OOY–16–12° ; markings weakly and diffusely marked, only slightly darker in colour than ground colour ; colour pattern probably similar to *maculosa* but with no trace of subterminal ; slightly lustrous. Underside of both wings OOY–17/18–10°, but fore wing darker anteriorly and irrorated with O–6–4° proximally ; faint trace of colour pattern in some specimens ; slightly lustrous. Colour of thorax and abdomen doubtful.

FEMALE. 46·4, 46·0–46·8 mm. (2). As for male but with longest antennal pectination equal to just less than greatest diameter of eye.

GENITALIA. As for *finita* but with following differences.

MALE. (Text-fig. 139). Vesica of aedeagus less densely spinose, as in *rubromarginata*; eighth tergite much broader posteriorly.

FEMALE. (Text-fig. 138). Lateral lips of postostial segment reduced in size ; ovipositor lobes differently shaped.

DIAGNOSIS. Distinguished from *maculosa* by the dull orange-yellow colour of the upperside of both wings, and the diffusely marked colour pattern.

DISTRIBUTION. Sikkim, E. Tibet.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : 1 ♀, Sikkim ; 1 ♂, Sikkim, Yatong, 1894, Bingham ; 1 ♀, Sikkim, vii.1909, F. Moller ; 1 ♂, 1 ♀, Sikkim, Knyvett ; 2 ♂, E. Tibet, Chumbi, Moore Coll.

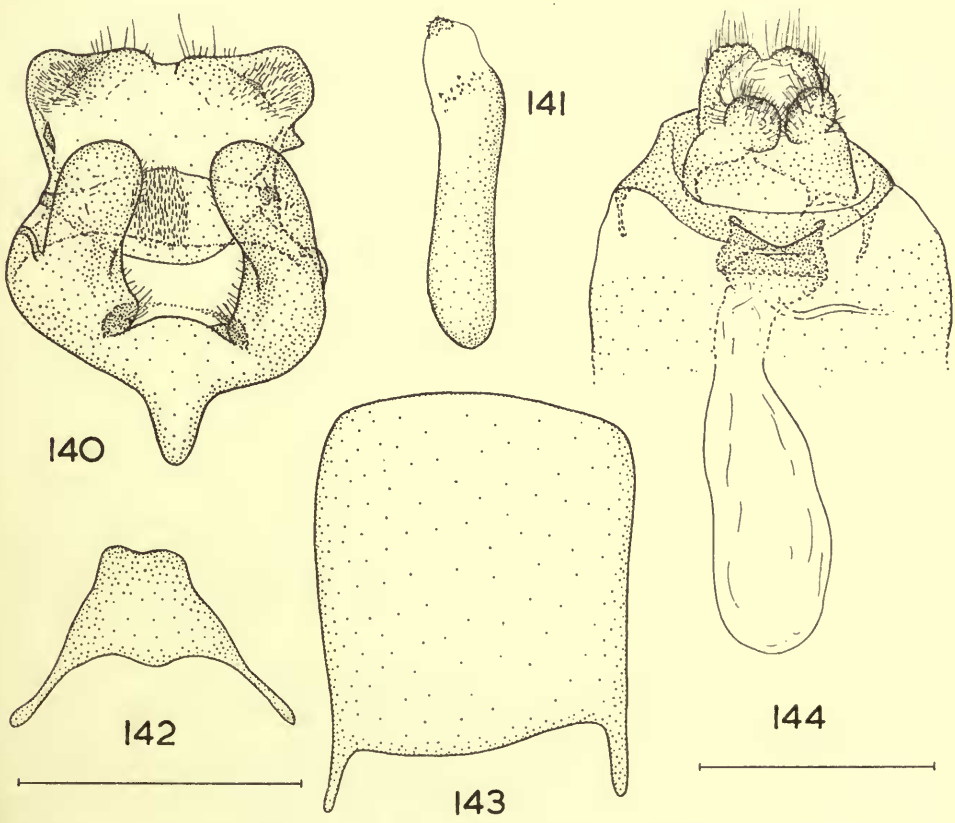
Tridrepana marginata sp. n.

TYPE. Holotype male, China, Provinz Nord-Yuennan, Li-kiang, 13.ix.1934, H. Höne ; Drepanidae genitalia slide no. 451. (in Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn).

DESCRIPTION : MALE (Pl. 3, fig. 11). 28·6, 27·0–32·2 mm. (26). Palp, antenna and head between and posterior to antennae OY–19–12° ; head anterior to antennae OOS–8–5°, to OOY–18–10° above labrum. Longest antennal pectination just longer than greatest diameter of eye.

Upperside of thorax and abdomen OOY/OY–19–12° above, OY–19–10° beneath. Fore wing moderately falcate, outer margin slightly convex ; frenulum distinctly clavate. Venation as for *albonotata* but fore wing with R_1 usually from two-thirds length of areole. Ground colour of fore wing as for thorax but darker near outer margin ; proximal quarter of costa irrorated with dark grey ; trace of antemedial, terminating in dark costal spot, O–6–2° ; minute, whitish mid-cell spot, finely edged with darker scales ; trace of discocellular spot ; large, usually triangular, grey

(OOS–13–2°) spot at end of cell at base of M_3, and similar but ovate spot at base of Cu_1, both edged with darker scales, closely apposed to each other; finely marked proximal postmedial line from two-thirds inner margin, slightly lunulate, terminating in dark costal spot as for antemedial; trace of broad, diffuse distal postmedial line posterior to M_1; subterminal of interneural dashes, usually very faintly marked posteriorly, strongly marked between apex and M_3, edged distally with light grey; whole of fringe of outer margin dark brown, tipped with whitish anteriorly; wing moderately lustrous except for band between subterminal and distal postmedial line and small apical area. Hind wing OY–19–11°; trace of antemedial, discocellular spot and posterodistal spot; proximal postmedial line faintly marked as interneural spots; trace of subterminal in some specimens; fringe of outer margin as for rest of wing anteriorly, dark brown for short distance near tornus; wing moderately lustrous. Underside of both wings OY–19–11°, fore wing slightly darker anteriorly and lightly irrorated with dark scales proximally. Fore wing with trace of antemedial and mid-cell spot; discocellular spot, posterodistal spot and



FIGS. 140–143. *Tridrepana marginata* sp. n., holotype male. 140. Genitalia. 141. Aedeagus. 142. Eighth sternite. 143. Eighth tergite.

FIG. 144. *T. marginata* sp. n., female, genitalia.

anterior part of distal postmedial line and subterminal moderately well marked; fringe as for upperside. Hind wing with discocellular spot, posterodistal spot and proximal postmedial line moderately well marked; trace of subterminal posterior to M_1, most distinctly marked between M_1 and M_2. Degree of lustre as for upperside.

FEMALE. 33·0, 30·2–39·0 mm. (12). As for male, but longest antennal pectination just shorter than greatest diameter of eye, and whole of upperside of fore wing lustrous.

GENITALIA: MALE (Text-figs. 140–143). Saccus small, tapered. Valve small, slightly arcuate; outer surface with very shallow, longitudinal sulcus. Anellus as for *adelpha*. Shape of gnathus similar to *adelpha*; medial pad quadrate, slightly evaginate, clothed with short, posteriorly directed spines. Socius short, pointed. Uncus bilobed, slightly produced laterally. Aedeagus slightly dilated apically; vesica with nearly complete ring of short spines at base, and small cornutus distally. Eighth sternite with well developed apodemes (ct. rest of species group). Eighth tergite nearly square.

FEMALE. (Text-fig. 144). Bursa copulatrix without ornamentation. Ductus bursae short, posterior part sclerotized. Ventral ovipositor lobes hairy, closely apposed to each other medially; dorsal lobes separated by small invagination posteromedially. Ostial segment well developed dorsally, with slightly raised longitudinal area medially.

DIAGNOSIS. Distinguished from the rest of the species group by the colour pattern of the upperside, and in the male by the clavate frenulum. The whitish centred mid-cell spot, the dark costal spot at the anterior end of the medial fascia, the completely dark outer margin fringe in the fore wing, and the partially dark outer margin fringe in the hind wing are especially distinctive.

DISTRIBUTION. W. China.

MATERIAL EXAMINED. ZOOL. FORSCHUNGSINST. U. MUS. A. KOENIG, BONN: allotype ♀, from type locality, 21.vi.1935. H. Höne, Drepanidae genitalia slide no. 467; 24 ♂, 7 ♀ paratypes, from type locality, 11–12.vi, 3–13.ix.1934, 4–29.v, 3–30.vi, 13–27.ix.1935, H. Höne. BRITISH MUSEUM (NAT. HIST.): 1 ♀ paratype, W. China, Tse Kou, 1903, P. Dubernard.

Species group *flava* Moore

This group contains a single polytypic species. The most obvious character distinguishing this species from the remaining groups is the presence of two pairs of spurs on the hind tibia.

Tridrepana flava flava (Moore)

Drepana flava Moore, 1879, *Descr. Lepid. Atk.*, p. 84.
Drepana flava Moore, Cotes and Swinhoe, 1887, *Cat. Moths. India*, p. 184.
Drepana flava Moore, Hampson, 1893, *Faun. Brit. India Moths* **1**: 340.
Albara flava (Moore), Kirby, 1892, *Syn. Cat. Lep. Het.* p. 734.
Callidrepana flava (Moore), Swinhoe, 1895, *Trans. R. ent. Soc. Lond.* **1895**: 3.
Drepana flava Moore, Dudgeon, 1899, *J. Bombay nat. Hist. Soc.* (4), **12**: 655.
Iridrepana flava (Moore), Warren, 1922, *Gross-Schmetterl.* **10**: 466.
Tridrepana flava (Moore), Gaede, 1931, *Lepid. Cat.* **49**: 29.

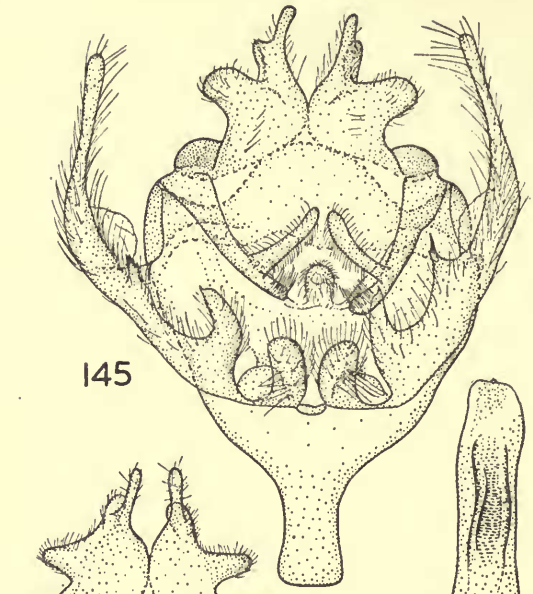
TYPE. Holotype male, Darjeeling (in Zoologisches Museum der Humboldt-Universität, Berlin).

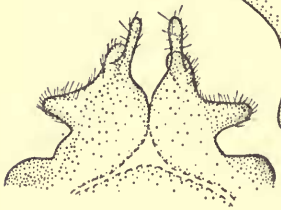
DESCRIPTION : MALE. (Pl. 3, fig. 13). 48·9, 43·0–54·0 mm. (12). Palp OOY–18/19–12°. Proximal inner pectinations of antenna and inner surface of shaft OOY–17/18–12°, rest of antenna O–6–4° ; longest antennal pectination equal to greatest diameter of eye. Head between and posterior to antennae OOY–17/18–12° ; head anterior to antennae OOS/O–5–12°, to OOY–18/19–12°.

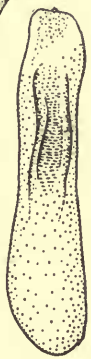
Thorax with narrow whitish anterior border, rest of thorax and abdomen OY–18/19–12° above, OOY–18–8° beneath. Shape of wings as in figure ; venation as for *albonotata*, but fore wing with R_1 free from cell not areole. Ground colour of upperside of both wings as for thorax proximally, slightly darker (OY–18–12) distally ; all markings dark brown (with exceptions mentioned below). Fore wing with trace of antemedial from one-fifth costa to one-third inner margin, lunulate ; small discocellular spot and whitish posterodistal spot ; weakly marked, irregularly shaped ring at end of cell extending to just beyond Cu_1 posteriorly and enclosing posterodistal spot anteriorly ; proximal postmedial line from two-thirds costa to one-third inner margin, strongly marked and lunulate posterior to M_2 (lunulae convex distally) ; distal postmedial line diffusely and weakly marked, lunulate between M_2 and Cu_2 (lunulae convex proximally), terminating in conspicuous costal patch ; subterminal well marked as broad, interneural dashes posteriorly, and represented by small, white, crescent-shaped markings anteriorly ; anterior part of outer margin fringe greenish yellow. Markings of underside show through fore wing. Wing lustrous except for area distal to proximal postmedial line posterior to M_3, and distal to subterminal anterior to M_3, most distinctly lustrous distally. Hind wing with trace of antemedial ; minute discocellular spot and large posterodistal spot ; proximal postmedial line from two-thirds costa to two-thirds inner margin, lunulate and interrupted at veins ; distal postmedial line nearly parallel to proximal line, not lunulate and less strongly marked ; subterminal similar in shape to distal postmedial line and nearly parallel to it. Proximal half of hind wing lustrous. Underside of both wings OY/YYO–18–11°. Fore wing with very strongly marked, broad antemedial (O–5–7°) ; small discocellular spot and trace of posterodistal spot and anterior part of distal postmedial line ; broad band of O–5–7° extending from apex to posterior end of proximal postmedial line, partially interrupted at middle ; other markings show through from upperside. Hind wing with medial spots as for upperside, but slightly lighter, and with markings of distal postmedial line anterior to R_5 ; other markings show through from upperside. Both wings slightly lustrous beneath.

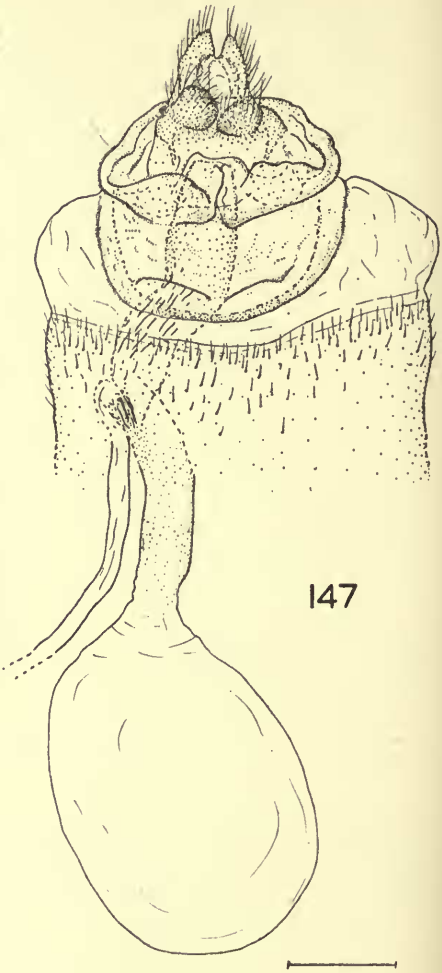
FEMALE. 54·4, 54·0–54·8 mm. (2). As for male but with longest antennal pectination equal to three-quarters greatest diameter of eye.

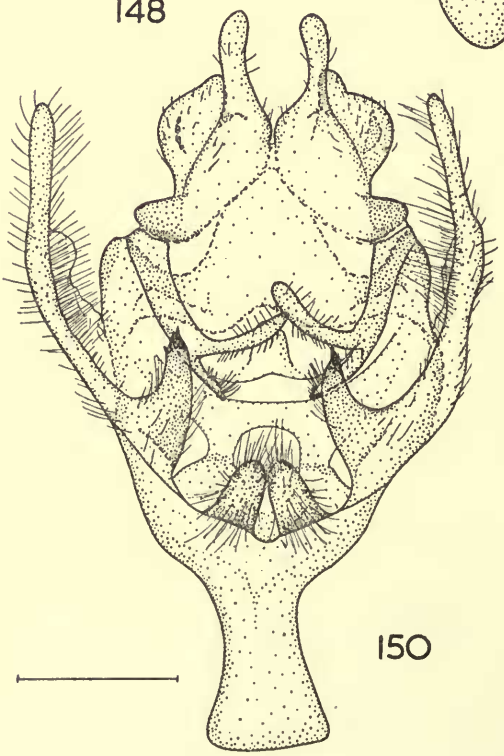
GENITALIA : MALE (Text-figs. 145, 146, 151). Saccus moderately long, slightly constricted at middle, truncate. Valves nearly touching each other medially ; each valve long, tapering and arcuate ; ventral margin with proximal lobe, and two further, apically toothed processes ; dorsal margin with membranous sac near base. Anellus most heavily sclerotized laterally, extending posterolaterally on either side. Medial pad of gnathus covered with short, hair-like spines ; lateral arms narrow,

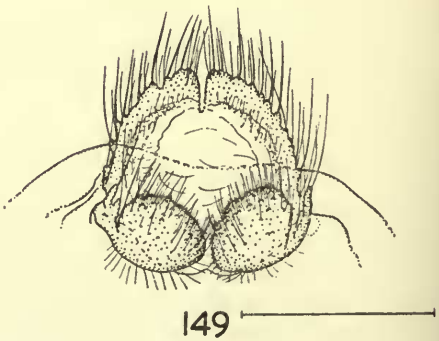












FIGS. 145 and 146. *Tridrepana flava flava* (Moore), male. 145. Genitalia. 146. Aedeagus. FIG. 147. *T. flava flava* (Moore), female, genitalia. FIG. 148. *T. f. contracta* ssp. n., holotype male, uncus. FIG. 149. *T. f. contracta* ssp. n., female, ovipositor lobes. FIG. 150. *T. f. unita* ssp. n., holotype male, genitalia.

Socius large, bifurcate; anterior arm spatulate and truncate; posterior arm spatulate. Uncus with heavily sclerotized, anterolateral bulge on either side; bifurcate posteriorly into pair of posterior arms and pair of lateral lobes. Aedeagus with inner cornutus but without outer cornutus; vesica minutely scobinate. Eighth sternite peculiarly shaped (see figure); posteromedial hairy part curved dorsally posterior to transverse carina. Eighth tergite well developed, quadrate, just longer than least transverse width; slightly wider posteriorly than anteriorly; posterior margin hairy and slightly produced at corners; apodemes equal to half least width of tergite.

FEMALE (Text-fig. 147). Bursa copulatrix without ornamentation. Ductus bursae minutely scobinate anteriorly, rimose for some distance anterior to junction with spermathecal duct. Ostium with medially apposed lateral lips. Spermatheca with radial ornamentation. Relative lengths of ductus bursae and spermathecal duct as for *crocea*. Ostial segment minutely spinose and strongly folded ventrally; strongly developed dorsally and produced for some distance over dorsal ovipositor lobes. Ventral ovipositor lobes papillate and hairy; dorsal lobes united anteriorly, separated from each other posteriorly by deep medial emargination.

DIAGNOSIS. Readily distinguished from the remaining species of the genus by the presence of two pairs of spurs on the hind tibia.

DISCUSSION. Although quite distinct from the rest of the genus in certain features of the colour pattern, the male genitalia, and by the presence of two pairs of hind tibial spurs, many other characters including the form of the female genitalia, and other features of the colour pattern and male genitalia indicate the close affinity between *flava* and the remaining species of *Tridrepana*.

DISTRIBUTION. Sikkim and N.E. India.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.): 1 ♀, from type locality; 1 ♂, Sikkim, 19.v.1888, O. Moller; 1 ♂, Sikkim; 10 ♂, Khasis, March 1894, Oct., Nov.1895, Nat. Coll; 1 ♂, Assam, Cherrapunji; 1 ♂, India. ZOOL. MUS. D. HUMBOLDT UNIVERSITÄT, BERLIN: 1 ♂, Darjeeling. MUS. NAT. D'HIST. NAT, PARIS: 1 ♂, Khasis, Nat. Coll.

Tridrepana flava contracta ssp. n.

TYPE. Holotype male, Malay States, Bukit Kutu, 3,300 ft., A. R. Sanderson; Drepanidae genitalia slide no. 461.

DESCRIPTION: MALE. 49·6, 45·6–52·2 mm. (7). FEMALE. 62·3, 58·4–66·4 mm. (3). Both sexes as for corresponding sexes of nominate race but with proximal postmedial line on upperside of fore wing less strongly lunulate, nearly straight in some specimens.

GENITALIA. As for nominate race but with following differences.

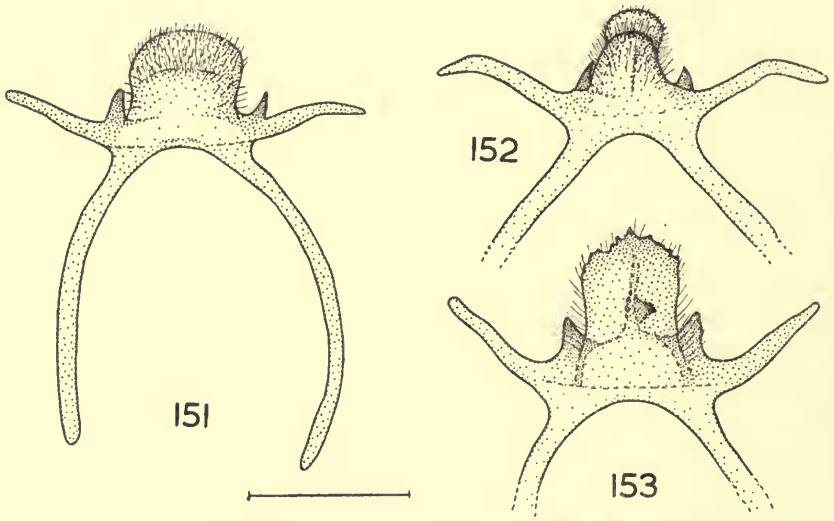
MALE (Text-figs. 148, 152). Saccus more sharply constricted (as for *unita*). Posterior lateral lobes of uncus smaller, tapered. Posterior part of eighth sternite narrower, constricted at middle.

FEMALE (Text-fig. 149). Dorsal ovipositor lobes separated by deeper medial emargination; each lobe more elongate.

DIAGNOSIS. Distinguished from the nominate race by the genitalic characters given above.

DISTRIBUTION. Malaya, Sumatra, Borneo and Java.

MATERIAL EXAMINED. BRITISH MUSEUM (NAT. HIST.) : allotype ♀, from type locality, at light, 3,500 ft., 21.iii.1931, H. M. Pendlebury ; 2 ♂ paratypes, with same data as holotype ; 6 ♂ paratypes, from type locality, April 14., 1926, 22.iii.31, Sept.21, 22, 30.1932, H. M. Pendlebury ; 1 ♂, Kedah Peak, 3,200 ft., Dec.1915 ; 1 ♂ paratype, Sumatra, Lebong Tandai, 22.xii.1921, C. J. Brooks ; 1 ♂ paratype, S.W. Sumatra, North Korintji Valley, 5,000 ft., Sept.–Oct. 1921, C., F., and J. Pratt ; 1 ♀ paratype, Slopes of Mt. Korintji, 7,300 ft., Aug.–Sept. 1921, C., F., and J. Pratt ; 1 ♂, 1 ♀ paratype, S.E. Borneo, Samarinda, x.1938, M. E. Walsh ; 1 ♂ paratype, B. N. Borneo, Mt. Kinabalu, Marei, Parei, 5,000 ft., 29.iv.1929 ; 1 ♀ paratype, Java, Mt. Gedeh, 4,000 ft., 25.x–2.xi.'24, G. Overdijink ; 1 ♂, Mt. Gedeh, Aug. 1926.



FIGS. 151–153. *Tridrepana flava* (Moore), male, eighth sternite.
151. *T. flava flava* (Moore). 152. *T. flava contracta* ssp. n. 153. *T. flava unita* ssp. n.

Tridrepana flava unita ssp. n.

TYPE. Holotype male, N. Celebes, Minahassa, 1922, Coll. P. J. v. d. Bergh Lzn.; Drepanidae genitalia slide no. 469.

DESCRIPTION : MALE. 51·2 (1). As for *contracta* but with only trace of dark ring at end of cell on upperside of fore wing.

GENITALIA : MALE (Text-figs. 150, 153). As for nominate race but with following differences. Saccus more sharply constricted (as for *contracta*). Valve without toothed distal process. Posterior arms of uncus stouter, and posterolateral lobe on each side united with bulge at base of posterior arms. Eighth sternite without transverse ventral carina ; strongly carinate dorsomedially ; posterior margin irregularly dentate.

FEMALE. Not known.

DIAGNOSIS. Readily distinguished from the other races by the genitalic characters given above.

MATERIAL EXAMINED. ZOOL. MUS., AMSTERDAM: 1 ♂ paratype, (N. Celebes), Bolong Mongondow, 1921, Coll. P. J. v. d. Bergh Lzn.

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—— 1897. New genera and species of moths from the Old-World regions in the Tring Museum. *Novit. zool.* **4** : 18.

—— 1903. New Uraniidae, Drepanulidae and Geometridae from British New Guinea. *Novit. zool.* **10** : 346.

—— 1922. The Indo-Australian Bombyces and Sphinges. *Gross-Schmetterl.* **10** : 464–467, pl. 49, figs. *a–f.*

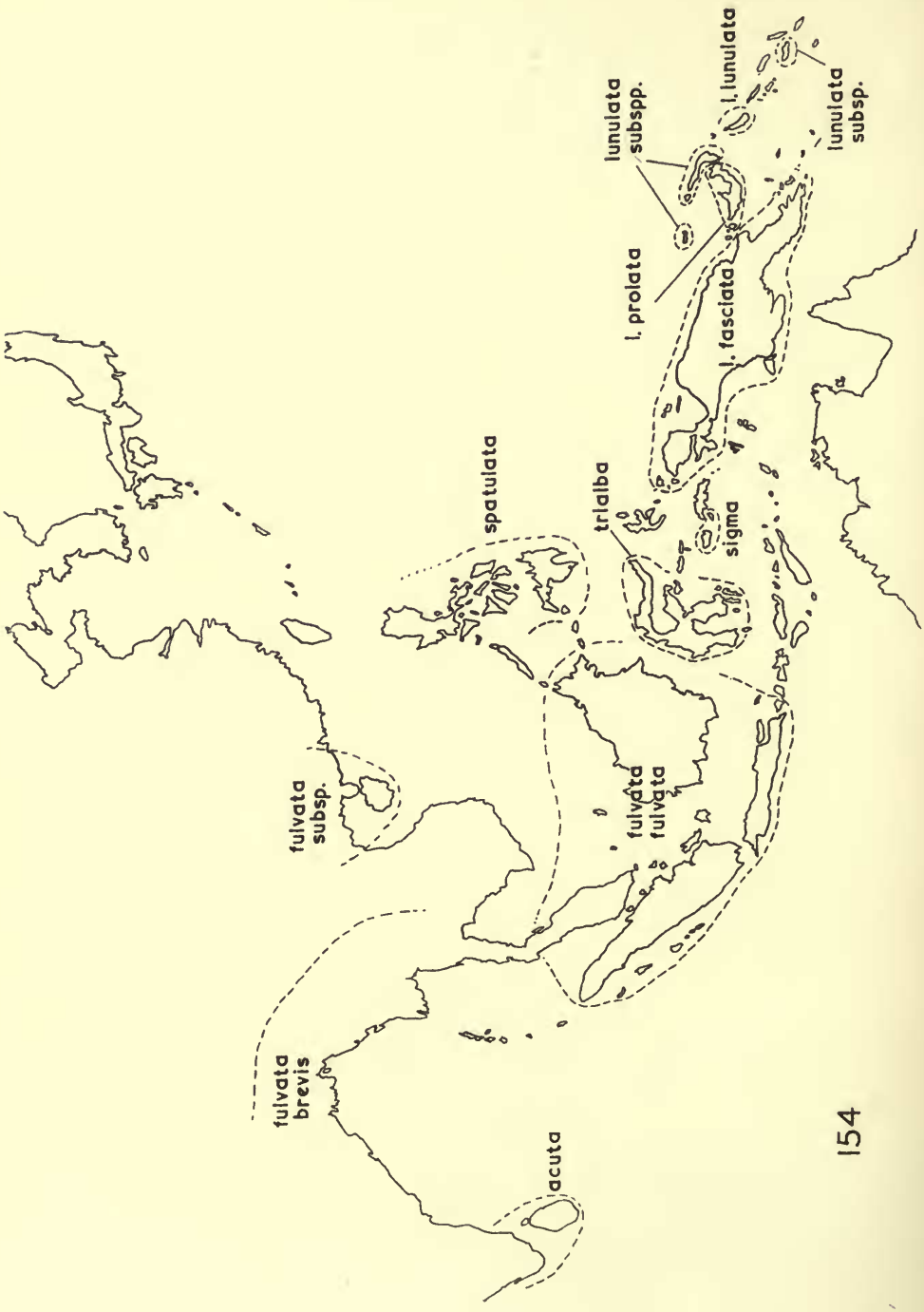

FIG. 154 Distribution of part of the *fulvata* Snellen species group.

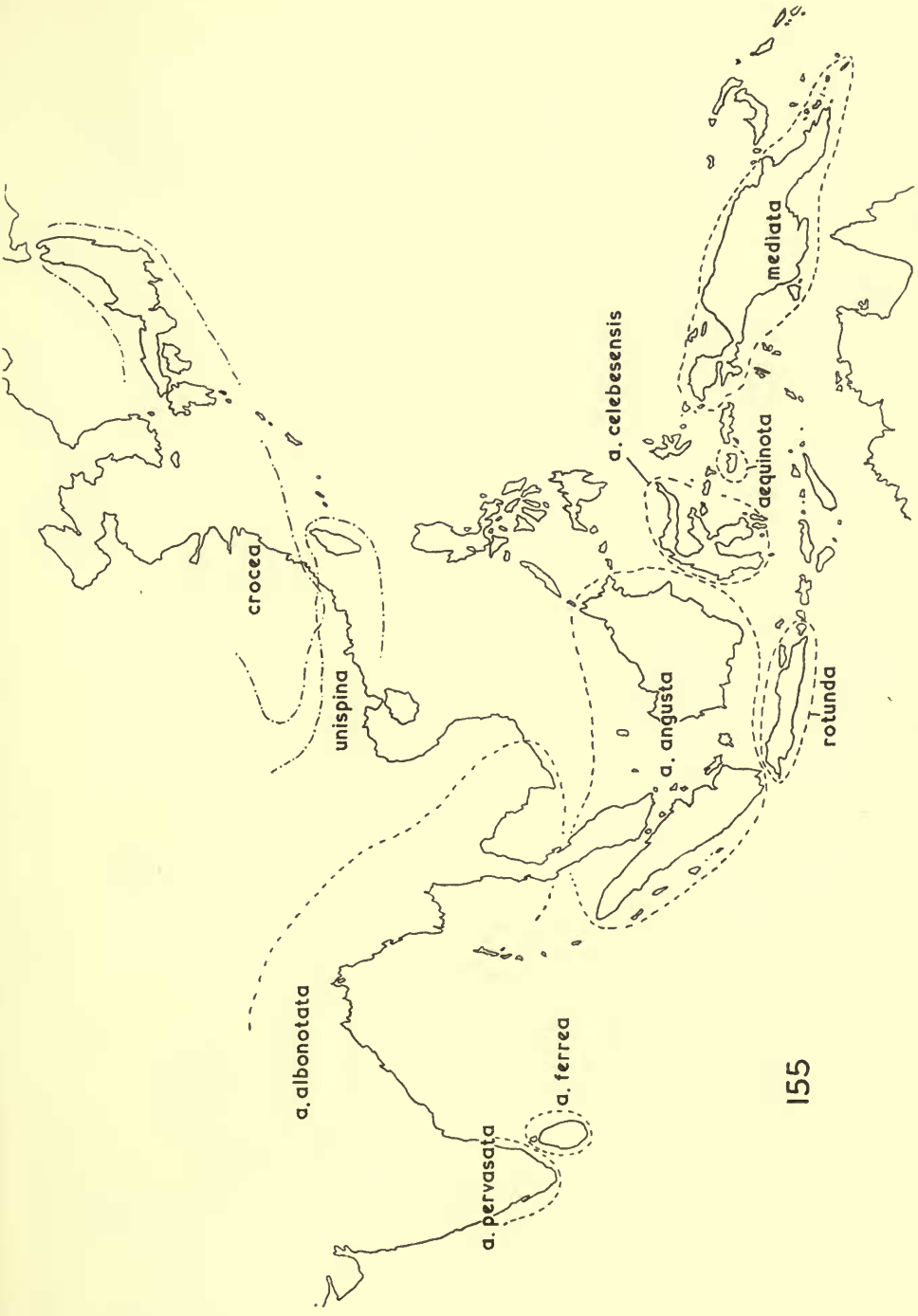

FIG. 155. Distribution of *crocea* Leech, *unispina* sp. n. and of the superspecies *albonotata* Moore.

PLATE 2

EXPLANATION OF PLATE

FIG. 1. *Tridrepana lunulata prolata* ssp. n., holotype ♂.
Fig. 2. *Tridrepana lunulata fasciata* Warren, syntype ♀.
FIG. 3. *Tridrepana sigma* sp. n., holotype ♂.
FIG. 4. *Tridrepana trialba* sp. n., holotype ♂.
FIG. 5. *Tridrepana arikana arikana* (Matsumura), ♂.
FIG. 6. *Tridrepana albonotata celebesensis* ssp. n., holotype ♂.
FIG. 7. *Tridrepana albonotata celebesensis* ssp. n., allotype ♀.
FIG. 8. *Tridrepana aequinota* sp. n., holotype ♂.
FIG. 9. *Tridrepana obscura* sp. n. holotype ♂.
FIG. 10. *Tridrepana microcrocea* Gaede, ♀.
FIG. 11. *Tridrepana sera* (Warren), ♂.
FIG. 12. *Tridrepana crocea* (Leech), ♂.
FIG. 13. *Tridrepana olivacea* Warren, (holotype ♂ of *T. semirufa* Warren).
FIG. 14. *Tridrepana examplata* Warren, ♂.
FIG. 15. *Tridrepana subtusmaculata* Gaede, ♂.
FIG. 16. *Tridrepana examplata*, syntype ♀.
FIG. 17. *Tridrepana septempunctata septempunctata* Warren, holotype ♂.